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IN THE

Supreme Court of the United States

OCTOBER TERM, 1921.

Number 15—Original

COMMONWEALTH OF PENNSYLVANIA, Complainant

vs.

STATE OF WEST VIRGINIA, Defendant.

Brief on Behalf of Complainant.

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STATE OF WEST VIRGINIA, Defendant.

Brief on Behalf of Complainant.

Questions Involved.

The State of West Virginia in its Answer calls the statute in controversy the "Adequate Gas Supply Act."

Its avowed purpose is to compel all companies, including those engaged in interstate transportation and sale of natural gas, to deliver to West Virginia consumers "domestic, industrial and otherwise" an adequate supply, before they are allowed to transport and deliver any gas to any consumer, either domestic, industrial or others, in any other State.

Does such a statute discriminate against citizens of other States, interfere with and burden interstate commerce, impair the obligation of contracts, deprive citizens of Pennsylvania, Ohio and other States, of their property without due process of law, and deny to the citizens of other States than West Virginia the equal protection of its laws?

The Statute in Controversy.

The statute is entitled:

> "House bill No. 59. A bill in relation to persons, firms and corporations engaged in the furnishing or required by law to furnish natural gas for public use within this State, to provide remedies for the enforcement of this Act and penalties and punishment for violation thereof, and to extend the jurisdiction of the Public Service Commission and of the courts of this State with respect thereto."

The provisions of the statute particularly involved in this controversy are as follows (the underscore is ours):

> "SECTION 1. That every person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use, or for the use of the public, or any part of the public, whether for domestic, industrial or other consumption, within this state, shall to the extent of his supply of said gas produced in this state, (whether produced by such person or by any other person), furnish for public use within the territory of this state, and for the use of the public and every part of the public within the territory of this state, in or from which such gas is produced, or through which said gas is transported, or which is served by such person, a supply of natural gas reasonably adequate for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed or desired to be consumed by the public, or any part of the public, within said territory in this state, and

for which said consumer or consumers therein shall apply and be ready and willing to make payment at lawful rates."

"SECTION 2. That in case any person engaged in furnishing, or required by law * * * to furnish natural gas for public use within this state, * * * shall have a production or supply of natural gas which is, or probably will be, insufficient to furnish for such use (for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed by the public or any part of the public), within the terirtory in this state served by such person, then and in that event the public service commission shall have authority * * * to order any other person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use within this state, and producing or furnishing natural gas for public use in said territory or transporting the same through said territory, to furnish to such person having such insufficient production or supply, natural gas for the purpose of supplying such deficiency. * * * And whenever * * * the commission shall determine that public convenience and necessity so require, the commission shall have authority to provide for and compel the establishment of a reasonable physical connection or connections between the lines, pipes or conduits of such person having such excess supply of gas and the lines, pipes or conduits of the person having such deficiency of supply, and to require the laying and construction of such reasonable extensions of lines, pipes or conduits as may be necessary for the establishment of such physical connection or connections * * * Provided, however, that no person shall * * * be ordered to furnish natural gas to any other per-

son so engaged in furnishing, or required by law to furnish, natural gas for public use, except to the extent that the person so ordered to furnish natural gas shall, at the time have a production or supply of natural gas in excess of the quantity sufficient to furnish a reasonably adequate supply to his consumers within this state; nor shall any person, by virtue of this section, be ordered to furnish natural gas to any other person * * * if and when the said person having said excess shall, to the extent of such excess, be ready and willing to furnish, and within such time as the commission shall prescribe shall actually furnish, to the consumers within said territory a reasonably adequate supply of natural gas."

SECTION 3. Confers jurisdiction on the public service commission of the state.

SECTION 4. Provides for complaints by persons aggrieved to the public service commission.

SECTION 5. Provides for penalties for violation of Act.

SECTION 6. Provides for recovery of damages for violations of Act.

SECTION 7. Defines persons.

SECTION 8. Provides that sections are separable.

SECTION 9. Repeal of conflicting laws.

The statute in full is printed as Exhibit "A" in the Appendix to this brief on page 149.

The Issues Tendered by the Pleadings and the Contentions of the Respective Parties.

The avowed purpose of the State of West Virginia, by the statute in controversy, and the legal machinery by which it proposes to compel those companies engaged in the interstate transportation of natural gas, to discriminate in favor of West Virginia consumers, and to prohibit such companies from transporting gas out of the State, until after an adequate supply has been delivered to all classes of consumers, domestic, industrial and others, in the State of West Virginia, is set forth with brutal frankness in the Answer filed in this case by the State of West Virginia.

On page three of the Answer, in Paragraph III, it is stated:

> "This defendant says that the facts, circumstances and conditions existing before, at the time of and since the passage of said statute and the evils sought to be remedied thereby were and are among others as in this Answer hereafter alleged, and the intention and purpose of the legislature of West Virginia in the passage of said statute were and are as in this Answer hereafter alleged."

The Answer in said Paragraph, and those following, proceeds to give the history of the development of the natural gas industry in the State of West Virginia. It traces the development of the transportation and sale of gas to other States. It shows how the gas was first disposed of to local communities, and as the quantities found increased, markets in other states were

sought and pipe lines built and the gas was transported and sold in such other States, and that this has continued for many years and admits that "in addition to their business of supplying gas to the public of West Virginia," the large companies "after the construction of their respective pipe line systems aforesaid also engaged and are still engaged in the business of transporting gas to or for consumption in other States."

The Answer then sets forth that while in the inception of the interstate business the production of gas in West Virginia was increasing and there was a large surplus for export and this continued for many years, that this production gradually declined and consumers in West Virginia did not obtain "a reasonably adequate supply of gas." The Answer claims that the shortage of gas supplied to the people of West Virginia "was and is caused by the transportation to or for consumption in other States," and the companies failed to supply a "reasonably adequate service to the public of West Virginia," or "to the local gas companies engaged in the service of said public, under the pretext that they were and are prevented from so doing by the necessities of the gas-consuming populations of said other States."

In Paragraph VI, page 30, the Answer continues:

> "Under these circumstances an issue arose between the State of West Virginia and the people thereof on the one side, and said seven companies on the other. On the one hand it was insisted by said State and its people that they were entitled to a reasonably adequate gas supply * * *. On the other hand it was insisted by said seven companies, as they still do insist, that they were and are unable to render additional service or furnish additional gas in West Virginia, either directly to

the public or to the local gas companies therein, because of the alleged necessities of the people of said other States and the contracts aforesaid. And said seven companies further contended as they still do contend, that their gas is private property, which they were and are entitled to dispose of when, where and as they choose, and that they owed no higher duty to the State of West Virginia or the people thereof than to the other States and their gas consuming population.

Confronted with the foregoing, among other, facts, circumstances and conditions, and in the light thereof, the Legislature of West Virginia, at its session of 1919, in the exercise of its police and other powers, enacted the statute complained of in the bill of complaint."

And again in Paragraph IX, page 33, of said answer, the State of West Virginia says:

"While this defendant admits that gas is or may be an article of interstate commerce, yet this defendant denies that gas placed in mains or pipes by public service gas companies, is either in interstate commerce or a legitimate article of interstate commerce, unless and until it has reached the point where it is no longer subject to the public service in West Virginia, and the duties imposed by law upon public service gas companies have been observed and performed by them; and denies that the requirement of the performance or observance of the duties owed by such companies is an interference with interstate commerce or a burden thereon."

And again in Paragraph XV, page 37, of said answer, the State of West Virginia says:

"This defendant admits that among the persons, firms and corporations to which said statute is applicable, and to whom it was designed to apply, are all those who, being engaged in the supply of gas to the public of West Virginia, are also engaged in the transportation of gas into Pennsylvania and other States * * *"

The paragraph continues:

"And this defendant says that the West Virginia gas of the persons, firms and corporations in said statute mentioned, required for the reasonably adequate supply of the public in West Virginia, is affected with the use or interest of said public, which is superior and prior to any introduction thereof into interstate commerce, and that this public use or interest cannot be destroyed or limited by the attempt or desire of said persons, firms or corporations to engage in interstate commerce. * * * This defendant * * * admits that the effect of said statute will be to give to all of the consumers in West Virginia, in said statute mentioned, to the extent of the gas therein mentioned, a reasonably adequate supply of gas, and says that said gas is affected with the use or interest of said public of West Virginia as in this answer before alleged."

The answer says in the same paragraph at page 40:

"This defendant admits that many of the gas companies have withdrawn, or attempted to withdraw, altogether their industrial classification, and do not hold themselves out as willing to supply industrial consumers. But this defendant denies that the gas companies supplying gas to the public in West Virginia did or do have the right to

withdraw their industrial classification or service, except to the extent necessary to furnish a reasonably adequate supply of gas to the domestic consumers of West Virginia * * *"

Complainant contends that said statute in terms or by necessary operation:

(a) prohibits the transportation of natural gas from West Virginia into Pennsylvania, Ohio and other States, until all of the consumers in West Virginia, "domestic, industrial or otherwise," shall have obtained an adequate supply;

(b) authorizes and empowers the appropriation, for the use of West Virginia consumers, of natural gas which is already in transit in interstate commerce, to consumers in Pennsylvania, Ohio and other States, while in course of transportation through pipe lines passing through portions of West Virginia into Pennsylvania, Ohio, and other States;

(c) authorizes this appropriation in transit without the consent of the owner or transporter, or any contract therefor, and without any agreement as to the amount thereof that will be taken, the terms and conditions under which the same will be taken, or the rates that will be paid therefor;

(d) prevents contracts being made for a supply of gas to be transported from West Virginia into Pennsylvania, Ohio and other States, because the companies will not know nor be able to estimate, from time to time, what if any gas they will be permitted by said State of West Virginia so to transport and to sell, nor the periods during which they will be permitted to transmit and sell;

(e) discriminates against consumers in Pennsylvania, Ohio and other states by giving to all consumers

in the State of West Virginia, domestic, industrial, or other, a preferential or prior right over consumers in other States, without regard to or consideration for the life, health, convenience, comfort, financial losses and property rights of consumers in such other States, or their contracts of purchase of said gas or the rights, duties and obligations of the transporter under contracts made for the sale and delivery thereof;

(f) will increase the demand for gas by consumers in West Virginia so as to appropriate all the gas produced in West Virginia, or at least deplete the supply for such interstate delivery to such an extent that but a small proportion of the gas now being transported from West Virginia into Pennsylvania, Ohio and other States, will be available for such transportation, not enough to justify the continuance of the industry;

(g) requires a reasonably adequate supply to all consumers in West Virginia, industrial and others as well as domestic, and if such gas is needed to make up the defiicit of any company supplying gas to consumers of any kind in West Virginia, compels companies to make up such deficit with the gas in transit to consumers in other States by taking the same out of the pipe lines conducting said gas into such other States;

(h) provides that all industrial consumers and others, as well as domestic consumers, in West Virginia, shall be adequately supplied before even domestic consumers in Pennsylvania, Ohio and other States, can get any gas from West Virginia;

(i) will compel every natural gas company in West Virginia to extend its lines and deliveries coincident with the boundaries of the State, and spread its business blanket-like over the whole State even though

by carefully prepared charter limitations and by the previous course of dealing the particular gas company had expressly limited the locality it purposed to supply;

(j) would appropriate so large a proportion of the natural gas now obtained or that could be obtained from West Virginia as to make it impractical, if not impossible, to transport any gas whatever out of said State, and would destroy interstate transportation of gas.

The Bill of Complaint and the Answer define the paramount issues between the parties to this suit substantially as follows:

Complainant contends that the transmission of natural gas from the producing wells of West Virginia to consumers in Pennsylvania, Ohio, and other States, through pipe lines crossing and recrossing State lines, is interstate commerce, and the effect of the so-called "Adequate Gas Supply Act" of West Virginia is to burden and interfere with and practically prohibit and prevent such transmission of natural gas from West Virginia to such other States, and to discriminate in favor of West Virginia consumers and against consumers in other States.

West Virginia contends: that because this natural gas is produced in West Virginia; because public service corporations of West Virginia are transporting the same; because of the obligations of these public service companies to the public of West Virginia; and because this gas is affected with the use or interest of such public which is superior and prior to any introduction of said gas into interstate commerce, therefore if the citizens of West Virginia want this gas, the State of West Virginia has the right to force such companies to deliver an adequate

supply thereof to consumers in West Virginia, before any of such gas can be taken out of the State, by the private owners thereof, for delivery to consumers in other States.

This naive contention of West Virginia is founded upon the assumption that natural gas produced in West Virginia, though it has been reduced to possession by the owner, though it has become an article of commerce, though it has been committed to interstate commerce, nevertheless, that gas is affected with the use or interest of the public of West Virginia which is superior and prior to the right of the owner to market his gas in interstate commerce.

The State of West Virginia vouchsafes no explanation of the "divinity" that doth "hedge" this gas, nor yet what power dread hath drawn "the awful circle" thereabout, so that if this nation "set but a foot within that holy ground" the penalty of paralysis of power is imposed.

Another direct issue between Complainant and Defendant is upon the claim of the State of West Virginia that so unlimited is the power of the State over its public service companies engaged in the transmission, sale and delivery of natural gas that notwithstanding limitations in charters and the long continued and approved course of dealing thereunder whereby companies had limited the territory it purposed to supply, nevertheless the State could compel such companies to cover the whole State and all the inhabitants thereof, natural and artificial, and give to all such inhabitants, natural and artificial, including competitive gas companies, an adequate supply of gas, before taking any of said gas out of the State.

An analysis of the statute will further demonstrate the correctness of the foregoing dissection of the claims of the State of West Virginia, as well as other fatal defects in said statute. Such analysis will be found at page 155 appendix hereto.

Counsel respectfully invite the attention of this Court to a digest of the evidence, printed in a separate volume and herewith submitted, comprising 298 pages.

This digest includes not only the evidence taken on direct examination by the complainant, but the cross-examination of complainant's witnesses, and the evidence taken by the defendant . References are given to the pages of the record.

The testimony has been collated and digested under the following headings:

1. Description of Witnesses as Experts, their experience, their opportunities for obtaining information, and the contrast in these respects of the witnesses for complainant and the witnesses for defendant.

2. Historical and Descriptive outline of development of and operating methods employed in the Natural Gas Industry of West Virginia. The discovery of Natural Gas and development of Natural Gas Fields was incident to oil development, and at first gas was of no value, there being no market for same.

3. The Later Development of the Natural Gas Fields of West Virginia was made by the great Interstate Transporting Companies for the purpose of obtaining gas to be transmitted to market in other States, which markets had been sought so as to give value to the natural gas produced in West Virginia.

4. The Amount of the Investment of the companies producing gas in West Virginia and transporting it to other States, in obtaining and carrying leases, drilling wells and laying pipe lines, &c.

5. The Exportation of Natural Gas from West Virginia to other States as carried on by the Gas Companies operating in that State, showing the lines of transmission, the movement of gas through the lines, and the operation Interstate and as one system or unit.

6. The Operation and Effect of the West Virginia statute will be to appropriate to the use of West Virginia Consumers Gas already in course of transmission from West Virginia to other States, and destroy the market for the product of the Gas Companies, render their plants valueless, and paralyze their business.

7. The Operation and Effect of the West Virginia statute will be not only to impair, but will destroy at times, the contracts between the Gas Companies and other companies and consumers, domestic and industrial, and the States of Pennsylvania and Ohio, and the United States Government, and will at all times make said contracts unenforceable, and make the other parties thereto cancel the same.

8. The Operation and Effect of the West Virginia statute will be to absolutely prohibit at times, during periods of cold weather, the transmission of Gas from West Virginia into Pennsylvania, Ohio or other States, and thus drive consumers off the line altogether and for the whole year.

9. The Effect of the Operation of the West Virginia statute will be a discrimination in favor of the citizens

of West Virginia and against the citizens of Pennsylvania and Ohio and other States, who are dependent upon the gas exported to them for fuel for heat and light by the Companies producing gas in West Virginia, and such residents of Pennsylvania, Ohio and other States, both domestic and industrial consumers, will suffer pecuniary loss, and the lives, health, safety, comfort and convenience of domestic consumers will be affected.

10. The States of Pennsylvania and Ohio, in their sovereign capacity, in and through their hospitals, insane asylums, public schools, penal institutions, and charitable institutions, and through the various political subdivisions of said States, such as cities, boroughs, &c., are consumers of Natural Gas, and have contracts for the supply thereof, and are dependent upon the use of Natural Gas exported from West Virginia for heat and light, and will be seriously affected by the operation of the West Virginia statute as to the lives, health, safety, comfort and convenience of wards and dependents in such institutions, and in such cities, boroughs, &c., and will further be subjected to great pecuniary loss.

11. Gas Companies in West Virginia are public service corporations, operating under franchises and exercising the right of eminent domain.

12. The Relation of the Hope Natural Gas Company, Pittsburgh & West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and The Manufacturers Light & Heat Company, to other producers of Gas and Gas Companies operating in West Virginia, and the respective holdings of wells, leases, production, the amount of gas exported by said companies, miles of pipe lines owned, &c.

Introductory Statement.

Before argument and citation of authorities upon the legal propositions, it will serve a useful purpose to take a general view of the development of the natural gas industry in West Virginia, and the effect of the enforcement of the statute in controversy upon the gas companies and upon consumers in other states. All of this is more fully and graphically shown by the evidence.

Details of fact, quotations from and reference to the evidence, will be found in the "Digest." There is little or no conflict between the evidence of the complainant and the defendant. On all the important questions there is no conflict at all. In fact the Answer of the defendant admits substantially all that is necessary to make complainant's case.

The South Penn Oil Company, in the latter half of the last century, had taken up large blocks of leases in the State of West Virginia, and had drilled the same for the development of the oil deposits. In its early operations it drilled many dry holes and a number of gas wells. Other operators did the same, but abandoned the wells when they obtained gas. The South Penn Oil Company, however, tubed and cased their gas wells and shut them in. They were confronted with the problem—what to do with the gas from these wells. The South Penn Oil Company, after a number of gas wells had been drilled by this corporation, acquired the Flaggy Meadow Gas Company, to take over these gas wells and supply several small West Virginia towns and also supply fuel for the drilling and pumping of wells of the South Penn Oil Company. (Digest p. 21; Record p. 18; Digest p. 34; Record pp. 322-4; Digest p. 42; Record pp. 340-1).

About 1894, the South Penn Oil Company, having obtained further gas wells in other sections of the State, the same stockholders organized the Mountain State Gas Company. The Mountain State Gas Company took over some of these gas wells and undertook to supply some of the river towns in West Virginia, such as Sistersville and Parkersburg. It was found, however, that the number of gas wells obtained by these three companies, the South Penn Oil Company, the Flaggy Meadow Gas Company, and the Mountain State Gas Company, was increasing to such an extent that the companies were obliged to seek some other market to take the gas thus produced, as there was not sufficient demand in West Virginia, and accordingly the Hope Natural Gas Company and the East Ohio Natural Gas Company were formed, by the same interests, to take over these properties and obtain an outlet for this gas, there being no market for the same in West Virginia. The markets first sought were certain cities in Ohio, then later cities in Pennsylvania and other States. (Digest p. 34; Record pp. 322-4; Digest p. 41; Record pp. 325, 331-2; Digest p. 42; Record pp. 341-2).

Lines were laid from Massillon, Canton, Akron and other Ohio cities to the Ohio River, where they connected with the lines of the Hope Company, and gas was transmitted to the Ohio towns and sold there, no measurements being made along the lines and not until the gas reached the ultimate consumer. Later the lines of the East Ohio Company were extended to Cleveland, and other and larger lines were laid from Cleveland to the Ohio River, where they connected with other and larger lines which had been laid by the Hope Company, and gas was transmitted and sold in Cleveland, without any measurements at intermediate points and not until the gas reached the ultimate consumer. Later extensions

of lines or other lines were laid to other Ohio cities such as Columbus, Cincinnati, etc. by these or other companies. The Peoples Natural Gas Company in Pennsylvania was also purchased by the same interests and lines were laid by this company to the West Virginia state line to connect with the Hope Company lines there, and also to Brave Station in Pennsylvania to connect with the Hope Company lines at that point, and gas was delivered both at the state line and in Pennsylvania by the Hope Company to the Peoples Natural Gas Company. The Peoples Company supplied a number of Pennsylvania cities and towns. (Digest pp. 42-3; Record pp. 424-7).

During this same period T. N. Barnsdall was another heavy operator in West Virginia. He was drilling for oil, and in many instances found gas. Some of this territory of Barnsdall's interlocked with the territory of the South Penn Oil Company. When in 1898 the Hope Natural Gas Company was formed, or shortly thereafter, these gas interests of Barnsdall were transferred to this company. Prior to that time Barnsdall was supplying gas to quite a number of towns in Ohio, and after the consolidation of his interests as above stated with the Hope Company, the Reserve Gas Company was then formed by the same interests to take over many of the holdings of the Hope and Barnsdall companies. The Barnsdall interests were subsequently transferred to the Union Natural Gas Corporation. At practically the same time the Connecting Gas Company was formed by the same interests that formed the Reserve Company, to transport the gas from the Ohio River where it was taken by the Reserve Company's lines to two points,—Sugar Grove, in Ohio, where the Union Natural Gas Corporation received it for transmission and delivery,—and the other at Wheeler, in Ohio, where the Northwestern

Ohio Natural Gas Company received the gas belonging to the Hope Company, and transmitted and delivered the same through its own system in Ohio to various cities, including the city of Toledo. This plan of operation has been followed by the respective organizations from that date to the present time. (Digest p. 35; Record pp. 322-4).

Substantially all of these companies, however, after their organization, became active in securing additional gas territory and additional gas wells, both by drilling and purchasing, and, when the demand for gas increased, began the purchase of gas from other operators. (Digest pp. 44-6, 49, 53, 54; Record pp. 486-8, 521-4, 683-5, 719).

These companies, as well as others that were formed by other parties, from time to time, such as the Pittsburgh & West Virginia Gas Company, the United Fuel Gas Company, the Columbia Gas & Electric Company, the Carnegie Natural Gas Company, The Manufacturers Light & Heat Company, the Eastern Oil Company, The Logan Natural Gas Company, The Fayette Gas Company, Ohio Fuel Company, Northwestern Ohio Natural Gas Company, and many others, produced gas in West Virginia, or purchased it from other companies engaged in its production in West Virginia, and for years have been supplying West Virginia gas not only to the centers of population in West Virginia, but to large cities such as Pittsburgh, Johnstown, Altoona, McKeesport, and New Castle, in Pennsylvania, Cleveland, Cincinnati, Columbus and Toledo, in Ohio, Louisville, Ky., and Indianapolis, Ind., and the large number of towns and cities in Pennsylvania named on pages 6 to 9, of the Bill of Complaint of the Commonwealth of Pennsylvania, and to a large number of cities and towns in Ohio and other States. (Digest

pp. 212-233 and see references to Record there cited, which are so numerous that inserting them here would interrupt the continuity of the reading).

The number of cities and towns in States adjacent or contiguous to West Virginia dependent almost entirely upon West Virginia for their natural gas supply is substantially as follows:

In Pennsylvania	about	300
Ohio,	"	300
Kentucky,	"	25
Indiana,	"	15
Maryland,	"	14

Among these are some of the largest cities in these states. (Digest, pp. 234-5; Record, pp. 907-8; Digest, p. 236; Record, p. 904).

The number of domestic consumers in Pennsylvania is substantially 400,000, or counting five to a family, approximately a population of 2,000,000; in Ohio about 725,000, or a population of 3,625,000; in Kentucky about 75,000, or a population of 375,000; in Indiana about 15,000, or a population of 75,000; and in Maryland about 10,000, or a population of 50,000. (Digest, p. 235; Record, p. 908).

The States in which the activities of the larger natural gas companies taking gas from West Virginia and other States are conducted, are as follows:

Hope Natural Gas Company. Pennsylvania, Ohio and West Virginia. (Digest, pp. 79, 80; Record, pp. 204, 205, 297, 298).

Reserve Gas Company. Pennsylvania, Ohio and West Virginia. (Digest, pp. 79, 80; Record, pp. 186, 189, 974).

Connecting Natural Gas Company. Pennsylvania, Ohio, Kentucky and West Virginia. (Digest, pp. 83, 84; Record, pp. 318, 364).

East Ohio Gas Company. Ohio. (Digest, p. 88; Record, pp. 564, 570, 973, 1599).

Columbia Gas & Electric Company. West Virginia, Kentucky and Ohio. (Digest, pp. 84, 85; Record, pp. 374-6, 392, 876, 1584).

Logan Natural Gas Company. Indiana, Ohio and West Virginia. (Digest, p. 91; Record, pp. 750-8, 764-72, 1709).

Fayette Natural Gas Company. Pennsylvania and West Virginia. (Digest, p. 80; Record, pp. 534, 554).

Pittsburgh & West Virginia Natural Gas Company. Pennsylvania and West Virginia. (Record, pp. 514, 515).

The Manufacturers Light & Heat Company. Pennsylvania, Ohio and West Virginia. Digest, p. 74; Record, pp. 615, 616).

Carnegie Natural Gas Company. Pennsylvania and West Virginia. (Digest, p. 95; Record, pp. 876, 890-2, 1587).

Eastern Oil Company group of companies. Maryland and West Virginia. (Digest, pp. 93, 94; Record, pp. 892, 893).

Natural Gas Company of West Virginia. West Virginia, Pennsylvania and Ohio. (Digest, p. 90; Record, pp. 741-2, 746, 1566).

United Fuel Gas Company. West Virginia, Kentucky and Ohio. (Digest, pp. 84-5; Record, pp. 374-6, 392, 876, 1584).

The Philadelphia Company. Pennsylvania and West Virginia. (Digest, p. 87; Record, p. 876, 1586):

Ohio Fuel Supply Company. Ohio and West Virginia. (Digest, pp. 88, 89; Record, pp. 651-8, 874, 1601).

Peoples Natural Gas Company. Pennsylvania. (Digest, pp. 79, 80; Record, pp. 186-90, 1509).

Northwestern Ohio Natural Gas Company. West Virginia and Ohio. (Digest, p. 89; Record, p. 651).

The Hope, Reserve, Connecting, Peoples and East Ohio, are the only companies that are in any manner affiliated or have any connection with the so-called Standard Oil interests. The other twelve companies in the foregoing list and many others have no such connections. All of these companies are in competition with one another (if located and operating in the same territory) in leasing, drilling, &c. (Digest, pp. 282-4; Record, pp. 1302-3, 12, 13, 46, 220, 357, 371, 827). The evidence conclusively establishes the fact that there is no monopoly, except in so far, as always results, that operations requiring enormous capital can only be carried on by a comparatively few. In this case these few are in no way associated. (Digest, pp. 275-82; Record, pp. 160, 321, 353, 356, 378-9, 424, 469, 508, 553-4, 638, 658, 682, 998-9, 1021, 1030-33, 1169, 1174, 1205, 1508).

The investment of the natural gas companies engaged in operating for and transmitting and supplying natural gas in and from West Virginia, at the present time, is several hundred millions of dollars, and the investment of the domestic consumers in the respective

States in their appliances for burning natural gas, estimated at $200 to the consumer, would be in excess of $245,000,000. This takes no account of the money invested and lost, nor of the appliances used in industrial plants. (Digest, pp. 60-71, and references there cited. Digest, p. 201 and references to Record there cited for average cost to consumer. Record, p. 908 for evidence as to number of consumers).

The total production of natural gas in the State of West Virginia in 1908 was approximately 112,000,000,000 cubic feet. This production gradually increased for five years until 1913, when it was approximately 245,500,000,000 cubic feet. It declined in 1914 and 1915, but in 1916 it was approximately 299,000,000,000 cubic feet. This increased in 1917 and declined in 1918, and in 1919 it was approximately 220,000,000,000 cubic feet. (Digest, p. 273; Record p. 278).

There was transported out of the State of West Virginia for the use of the respective consuming communities in Pennsylvania, Ohio, Indiana, Kentucky and Maryland, in the year 1919, approximately 140,000,000,000 cubic feet, or about 64% of the State's total production. The State of West Virginia during the same year consumed approximately 80,000,000,000 cubic feet of its own production and about 4,000,000,000 cubic feet which was imported into West Virginia from other states. (Digest, pp. 273-4; Record, p. 1378).

Natural gas cannot be stored after the gas-bearing sand has been punctured by the drill, and must be transmitted to the points of consumption by pipe lines. (Digest, pp. 23, 33; Record, pp. 13, 1421). The transmission for long distances through these pipe lines, after gas is forced into the line by its natural or rock

pressure, is made possible by the construction of compressors, which release the gas after compression into the transmission lines, and the gas flows through the same by its expansion. These compressor stations are located at intervals upon all of the transmission lines. (Digest, pp. 24-26; Record, pp. 127, 153-5). Some of these compressor stations have many thousand horse power. (Digest p. 61; Record pp. 258-9). The flow of gas in any direction is always towards the point of lowest pressure, and, therefore towards the point of largest consumption at the instant. Its direction of flow may vary from minute to minute, hour to hour and day to day. (Digest, pp. 29, 32; Record, pp. 865-76, 1419-20). The gas in the lines is never at rest. It is always in motion in one direction or another. (Digest, p. 31; Record, p. 908).

The development and growth of the presently existing vast system of natural gas production, transportation &c, is the result of experience extending over more than a quarter of a century. At first the supply of gas was confined to limited areas, within the radii of transmission by means of natural rock pressure of the gas in the ground. Science has extended these radii, almost in definitely, by supplementing this natural pressure by compressor stations of thousands of horse power erected at intervals along the transmission lines.

These transmission lines in West Virginia, Pennsylvania and Ohio, cross and recross the State lines at many points. (Digest, p. 73; Record, p. 30). The lines of some of these companies are shown upon maps in Volume I of Exhibits, Volume III of the record, at the following pages:

Page

The Fayette Company.....1581
The Hope Company.....1582
The Reserve Company.....1583
The United Fuel Gas Company.....1584
The Manufacturers Light & Heat Co.....1585
The Philadelphia Company.....1586
The Carnegie Company.....1587
The Eastern Oil Company.....1588
The East Ohio Company.....1599
The Ohio Valley Supply Company 1601
And the joint map of the Hope, Reserve and Peoples Companies 1600

The map at page 1694, of the above Volume, based on data compiled by the United States Geological Survey, shows the natural-gas-using towns, and main transmission lines, in West Virginia, Pennsylvania, Ohio, Indiana, Kentucky and Maryland. They form a network of interstate transportation or transmission, forming a system of interstate connections and interstate crossings to which railroad lines are no comparison. These maps visualize the fact that in the production, sale and transportation of natural gas, state lines were obliterated by all of these gas companies, just as they were by the commerce clause of the Constitution of the United States. To now turn bac the hands on the dial of time, law, usage and custom (by which usage and custom the state of West Virginia has heretofore enormously profited) as this statute now proposes, would involve losses to gas companies and to consumers of nearly a billion dollars, subject millions of men,

women and children, in other states than West Virginia to indescribable hardships, to dangers to life and health, to discomfort and inconvenience, the while consumers in West Virginia were protected from all those losses and evils by the selfish discrimination of the laws of their State, in their favor, instead of the State adopting a forward-looking policy applicable to consumers in all States alike, providing for a gradual readjustment to meet the diminishing gas supply.

The lines of some of these companies cross and recross the State lines at a large number of places. The lines of The Manufacturers Light & Heat Company, for example, cross and recross the State lines between West Virginia and Pennsylvania and Ohio, over forty times. Through these lines the transmission of gas is carried from the producing centers of West Virginia to the consuming centers of Pennsylvania, Ohio, Kentucky, Indiana and Maryland. (Digest, pp. 73-5; Record, pp. 30, 114, 146-7). At these consuming centers in the villages, boroughs, towns and cities, there are distributing systems of pipe lines with house connections of the same general character as those used for manufactured gas. (Digest, p. 25; Record, p. 18).

All of the gas companies supplying the centers of population in all of the States have long since adopted the rule of giving to the domestic consumer preference over the industrial consumer; that is, in the event that there is not sufficient gas to supply both industrial and domestic consumers, the supply to the industrial consumer is cut off as far as possible.

In some of the States, as in Ohio, the Public Service Commission of the State has made rules and regulations giving to the domestic consumer the preference. The

natural gas companies, by reason of the present and prospective shortage of natural gas supply, have adopted the general policy of discouraging as far as possible the use of natural gas for industries, so as to conserve the supply for the domestic consumers. This policy was adopted because industries could more readily arrange for other fuel, and because industrial plants, as a rule, used such enormous quantities of gas that the supply was not enough for both domestic and industrial consumption. (Digest, pp. 147-8 and references to record there cited; Digest, pp. 157-8; Record, p. 423; Digest, p. 162; Record, pp. 561, 562, 578-9, 603, 634, 680, 681, 722, 781, 793).

Even when the supply of natural gas was much greater than it is at present,—in fact, at all times,—during "peak load" periods, that is, during extreme cold weather, both because of the peak load demands and because of the slowing down of transmission during such weather, there has been a shortage of supply, and even domestic consumers have not been furnished with an adequate supply. (Digest, pp. 144-6, 152, 161, 164, 166; Record, pp. 47, 50, 51, 215, 222, 458, 475-7, 611, 673). This condition has been accentuated during the last few years by a gradual diminution that has taken place in the supply of gas. (Digest, p. 214; Record, p. 47-8; Digest, pp. 216, 217, 224; Record, pp. 211, 327-8, 348, 588).

In addition to private citizens, the States of Pennsylvania and Ohio have contracts for the supply of gas to their public insitutions in the localities supplied by these natural gas companies, such as hospitals, poorhouses, houses of detention, etc., and the various municipalities in said States use the gas under contract for their public buildings, sometimes for street lighting and for the lighting of their grounds and the like. (Digest,

pp. 126, 127, 129, 132, 134-6, 238-52; Record, pp. 7-8, 118-20, 223, 388-9, 458, 500, 501, 574-7, 590, 632-3 and references to Record cited in Digest, pp. 238-52).

In many sections of Pennsylvania and Ohio, and in some of the other States, dwelling houses have been constructed with appliances adapted solely for the use of natural gas, and these appliances cannot be used for other fuel. So, too, some of the industrial plants have been so constructed, and must be reconstructed in order to use other fuel. The time required for such reconstruction and change of appliances would be very considerable,—many months,—and the cost thereof would be great. (Digest, pp. 200-12, and references to Record there cited).

If West Virginia gas were cut off from these consumers until the new appliances were installed and adapted to other fuel, and such fuel procured, such consumers would be not only subjected to an enormous cost and expense, but also would be affected in their comfort and convenience as well as in their health, if indeed their lives would not be in many cases jeopardized. (Digest, pp. 192-200 and references to Record there cited).

The gas companies transmitting gas from West Virginia into Pennsylvania, Ohio, and other States, are not only under contract to supply West Virginia gas to domestic and industrial consumers, but also to the States themselves and the municipal subdivisions of said States, and other gas companies operating therein. (Digest, pp. 127-141, 238-52, and references to Exhibits in Record there cited).

A large proportion of the natural gas now being used in Pennsylvania, Ohio, and these other States, is

obtained in and transported from West Virginia into these other States, and naturally and inevitably anything that reduces the amount of gas thus to be transported into these other States will diminish the quantity of gas thus to be delivered from West Virginia to these other States. (Digest, p. 142; Record, p. 969; Digest, pp. 273-4; Record, p. 1378; Digest, pp. 235-6; Record, pp. 904-8; Digest, pp. 184-7, and references to Record there cited.) The effect of such diminution is not measured in proportion to the amount of gas taken out for consumption in West Virginia under the provisions of said statute. There must always be enough gas in any pipe line system to fill the lines in order to maintain any pressure sufficient to afford any practical service to consumers on that line. While therefore only 25% to 50% of the amount of gas in transit to other States may be temporarily seized under the provisions of said statute for use in West Virginia, this may, and in all probability would, so disorganize the pressures on the transmission system as to prevent any service at all to consumers on said lines in other States, especially those at distant points. (Digest, pp. 30-31; Record, p. 876; Digest, pp. 77-8, Record, pp. 49-50; Digest, p. 141; Record, p. 783; Digest, p. 164, Record, p. 606; Digest, pp. 177-8; Record, pp. 909-10).

The operation of the West Virginia statute in controversy, not only undertakes to regulate and control the transportation lines, that is, the machinery of transportation, but proposes to take out of the lines, while the same is in transit to other States, the very article of commerce,—the natural gas,—so under transportation, and, without the consent of the gas company thus transmitting the same from West Virginia to such other States, proposes to appropriate and apply the gas thus taken to the use of and for the benefit of not only the

domestic consumers in West Virgnia, but also all other consumers, the industrial consumers and others, throughout the domain of the State of West Virginia.

The effect of the operation of said statute and the carrying out of its mandates will be:

(a) The appropriation by West Virginia consumers of gas already committed to interstate commerce.

(b) The practical prohibition altogether of the transportation of gas from West Virginia into other States.

(c) To discriminate in favor of and give to consumers in West Virginia preferences and opportunities over consumers in other States.

(d) To cause enormous pecuniary losses to the natural gas companies and to consumers in these other States.

(e) To affect and jeopardize the comfort, convenience, health, and possibly the lives, of consumers in such other States.

(f) To strike down the contracts of the transporting companies with States, municipalities, other gas companies, and with consumers in such other States.

(g) To take the property of the transporting gas companies forcibly and without their consent.

(h) To destroy the value of the investments of the transporting natural gas companies, by destroying their market for gas, greatly reducing

the value of their plants, and in many instances rendering such plants, especially their distributing systems, utterly valueless.

The foregoing effect of the operation of the statute and the carrying out of its provisions, is evident from the following considerations:

The statute requires of each company in the state, however limited by charter or course of business may have been its locality of supply, an adequate supply of natural gas to be furnished, in the first instance, to all the residents of West Virginia, domestic, industrial and others, whether such residents are now being supplied by said transporting companies or not, and whether they have any connections upon their lines or not, and whether they are located in the territory which the company agreed to supply or not. By express terms the statute covers the whole territory of West Virginia, and the territory through which any of the lines of transportation pass. (As a matter of fact there are only two or three counties in the State through which lines do not pass.)

The statute also requires such adequate supply not only to domestic consumers, but to industries and to other consumers. If the industries now in the State, and particularly those additional industries which would be there attracted by such an enactment, as well as all the domestic consumers in the State, would use natural gas for fuel, as they undoubtedly would, they would consume substantially every foot of gas produced in the State,—even that produced at the present time, not to speak of the lesser quantity that will later be available on account of the rapid decline in production in West Virginia that is now going on. (Digest, pp. 144-81, passim and references to Record there cited).

Moreover, as previously stated, at no time during the past, when the supply of natural gas was much greater than today, during the "peak load" periods, even after industrial consumers were cut off the lines, could the gas companies furnish an adequate supply. (Digest, pp. 214, 216, 217, 224, 144-6, 152, 161, 164, 166; Record, pp. 47-8, 50, 51, 211, 215, 222, 327, 328, 348, 458, 475-7, 588). The peak load varies over normal from ten to twenty times. (Digest, pp. 150-1; Record, pp. 55-7, 222-3, 327, 423-4, 909). No gas company as an economic proposition, could afford to lay lines of dimensions sufficient for this extraordinary demand which continues for short periods only and during extreme cold weather. (Digest, p. 32; Record, p. 520). Besides this, temperature affects the flow of gas from the well and through the lines, cold retarding the flow, and the colder the weather the more the flow is retarded, just at the time when the demand is the greatest and the necessity for its use the most imperative. During these periods, therefore, if the demand for domestic consumption in West Virginia must be adequately supplied, even if the industrial demand in West Virginia, like elsewhere, was cut off, which the statute forbids, still consumers in other States would suffer indescribable hardships by this preemption of substantially all the gas by West Virginia consumers. As already explained, the transmission of gas by pipe lines, unlike the transportation of other commodities, may be substantially stopped by taking out of the line a comparatively small per cent. of their capacity, because the pressures must be maintained or no gas can be transmitted.

In addition to this, should any other natural gas company in the State, by reason of improvidence or carelessness or negligence or want of foresight and of capital, or other reason, be unable to supply the consumers

upon its lines, even though when such lines were laid it was evident the company laying the same could not supply such consumers, and that such consumers would require billions of feet of gas over and above the amount said company was prepared to supply, nevertheless, other companies engaged in interstate transportation of natural gas would be compelled to make a connection with such line and make up the deficit, whenever such deficit existed, whether such deficit was permanent or temporary only, during "peak load" periods. A local company with one small gas well could buy the distributing system of the largest city in West Virginia, and then, as above stated, compel the great interstate transportation companies to make up its deficit of gas.

Leaving out consideration of the wasteful use of gas by industries and in carbon-black manufacture now going on in West Virginia, (which waste would be enormously increased under the statute), the domestic consumers in West Virginia are comparatively just as wasteful. (Record, p. 901).

The diagram on page 1595 (Volume III of Record, Volume I of Exhibits) shows that domestic consumers in West Virginia used per consumer in 1906, 1,100,000 cubic feet of gas, and this fluctuated down to the end of 1918 to 850,000 feet per consumer; while during the same period the domestic consumers in Pennsylvania and Ohio respectively used in 1906, 600,000 and 250,000 feet per consumer, and in 1918, 375,000 and 160,000 feet per consumer; or West Virginia consumers in 1906 used nearly twice as much as Pennsylvania consumers and over four times as much as Ohio consumers, and in 1918, when the necessity for conservation became apparent, West Virginia consumers on the average consumed during that year over twice as much as Pennsylvania and over five times as much as Ohio consumers.

There is no claim, either by the Answer or by the evidence that there has been any discrimination by any of these interstate gas companies against consumers in West Virginia as compared with consumers in other States. West Virginia consumers have not only been fairly and liberally supplied, but lavishly, in comparison with consumers in other States. The statute, as the Answer shows and the evidence confirms, is not designed to protect consumers in West Virginia against discrimination, but to compel discrimination in their favor and against consumers in other States. The sole purpose of the statute in other words is to enforce discrimination in favor of West Virginians and against consumers in all other States.

This shortage of gas in cold weather to the consumers in other States would destroy altogether the demand for gas by such consumers. If consumers of gas in other States during the cold weather, when they needed above all other times this fuel to light and heat their houses and cook their meals, were deprived of this fuel, it follows inevitably that they would make other arrangements for fuel. They could not afford to rely upon the uncertainties and precariousness and intermittent character of their fuel supply of natural gas from these companies transporting the same from West Virginia into these other States, which would be subject to the operation of this West Virginia statute.

The experienced operators and experts of all the large natural gas companies testified unqualifiedly that the effect of the operation of the statute would be not only to tremendously diminish the supply of gas while in transit from the State of West Virginia into these other States, but it would so demoralize the operation of their lines as to utterly and completely prohibit and

prevent such companies from transmitting any gas into these other States during periods of cold weather and would destroy all demand for gas by consumers in these other States. These consumers in other States, such as Pennsylvania and Ohio, who are now dependent upon the gas at present being produced and transported from the State of West Virginia, would be so discriminated against by this statute that they would have to use other fuel, change their appliances, in some instances reconstruct their houses, and altogether abandon the use of natural gas; while the consumers in West Virginia could revel in the luxury of natural gas, and, if they continued their present profligacy, in an abandonment of waste of this most munificent gift of Nature to man.

Argument.

The following legal propositions Complainant contends are applicable to this case. The same, together with the authorities in support thereof, will be separately argued.

1. Natural Gas when reduced to possession by the owner of the surface, his grantees, lessees, or assigns, is an Article of Commerce, and Congress has expressly so recognized it and provided for its transmission or transportation in pipe lines.

2. Natural Gas is not the property of the State, although owing to its power of self-transmission it has been fancifully called a "Mineral Ferae Naturae" by analogy to Animals Ferae Naturae, and the State has no more dominion over it than over other privately owned real or personal property.

3. The transmission of natural gas through pipe lines from points within one State, into or through other States, when the pipe lines and the gas transmitted therein cross and recross the State line, constitutes Interstate Commerce.

4. The transmission of natural gas by pipe lines, from the producing centers of West Virginia to the consuming centers of Pennsylvania, Ohio, and other States, constitutes an act of commerce among the several States, of such a nature as to be national in character, and to admit of and require a uniform system or plan of regulation.

5. The obvious purpose and effect of the West Virginia statute is not only to burden, interfere with and regulate Interstate Commerce, but to absolutely prohibit and prevent the same by prohibiting and preventing the transmission of natural gas out of said State.

6. The obvious and declared purpose and the effect of said West Virginia statute is to discriminate against consumers in other States in favor of and to and for the commercial, economic and other benefit and advantage of consumers in West Virginia.

7. Over eighty per cent. of the natural gas entering the pipe lines of the Interstate Natural Gas Companies in West Virginia is started with the definite intention that it shall be transmitted in Interstate Commerce, and as a fact it is so transmitted to Pennsylvania, Ohio, and other States, wherefore:

(a) The statute cannot be sustained because it purports to enforce duties imposed by Law upon Public Service Gas Companies in West Virginia, or any common-law duty of public utilities.

(b) The statute cannot be sustained because the specific quantity, or the exact destination, or the particular consignee, are unknown at the inception of said transportation; or because in some instances the gas is transported by the producer or owner for his own use or for distribution or for sale to local consumers or distributing companies; or because there is a transfer of title thereto in transit; or because of any local necessity, public sentiment or expediency, to retain said gas for use by the citizens of West Virginia.

(c) The statute cannot be sustained because of any alleged police power.

(d) The statute cannot be sustained because of any alleged corporate franchise regulation by the State of West Virginia, either as to domestic or foreign corporations engaged in Interstate Commerce.

(e) The statute cannot be sustained because said statute applies equally to both domestic and non-resident persons and to Intrastate as well as Interstate Commerce, and the Interblending of Intrastate and Interstate Commerce.

(f) The statute cannot be sustained because several of these Companies also do some local business, by distributing Natural Gas at certain points from their pipe line systems to local communities.

(g) The statute cannot be sustained because those Interstate Gas Companies, if there are any, which are not Public Service Companies under the Laws of West Virginia would not be affected.

8. The possibility that the State of West Virginia may exercise some forbearance, and that the State Public Service Commission may exercise a liberal discretion in the enforcement of said statute, in no sense mitigates the repugnancy of said statute to the Commerce Clause of the United States Constitution.

9. The West Virginia statute so involves the regulation of both Intrastate and Interstate transmission of Natural Gas, that by no possible construction could it be upheld without being so remodeled that it would be a mere speculation whether the legislature would have

passed it in its new form, and this Court cannot reshape said statute simply because it embraces elements that it might have reached if it had been drawn with a different measure and intent.

10. The natural and necessary operation and effect of said statute will be to impair the obligation of contracts.

11. The natural and necessary effect of said statute is to deny to Citizens of Pennsylvania, Ohio, and other States, the privileges and immunities granted by said statute to citizens of West Virginia.

12. The natural and necessary effect of said statute is to deprive the Interstate Natural Gas Companies operating in West Virginia of their property without due process of law.

I.

NATURAL GAS WHEN REDUCED TO POSSESSION BY THE OWNER OF THE SURFACE, HIS GRANTEES, LESSEES, OR ASSIGNS, IS AN ARTICLE OF COMMERCE, AND CONGRESS HAS EXPRESSLY SO RECOGNIZED IT AND PROVIDED FOR ITS TRANSMISSION OR TRANSPORTATION IN PIPE LINES.

The legal status of natural gas and its character as a legitimate subject of interstate commerce was declared and settled by this Court in the leading case of *Oklahoma vs. Kansas Natural Gas Co.*, 221 U. S. 229, (1911). **It was explicitly decided in that case, (p. 255):**

> "Gas, when reduced to possession, is a commodity; it belongs to the owner of the land, and, when reduced to possession, is his individual property, subject to sale by him, and may be a subject of intrastate commerce and interstate commerce."

And in *Haskell vs. Kansas Natural Gas Co.*, 224 U. S. 217 (1912), on the question of modification of the decree in *Oklahoma v. Kansas Natural Gas Co., supra,* the court said, (p. 220):

> "This court held that natural gas after severance is a commodity which might be dealt in like other products of the earth, as coal and other minerals, and is a legitimate subject of interstate commerce."

See also:

State ex rel. Corwin v. Indiana & Ohio Oil, Gas & Mining Co., 120 Ind. 575 (1889).

Ohio Oil Co. v. Indiana 177 U. S. 190.

Congress has expressly recognized natural gas to be a lawful subject of commerce and has made provision authorizing its transmission or transportation in pipe lines.

Act of March 11, 1904, c. 505 Sec. 1, 33 Stat. at L. 65, amended March 2, 1917, c. 146, Sec. 1, 39 Stat. 983.

Act of June 29, 1906 (34 Stat. at L. 584, c. 359, Sec. 1), commonly known as the Hepburn Amendment to the Interstate Commerce Act.

II.

NATURAL GAS IS NOT THE PROPERTY OF THE STATE, ALTHOUGH OWING TO ITS POWER OF SELF-TRANSMISSION IT HAS BEEN FANCIFULLY CALLED A "MINERAL FERAE NATURAE" BY ANALOGY TO ANIMALS FERAE NATURAE, AND THE STATE HAS NO MORE DOMINION OVER IT THAN OVER OTHER PRIVATELY OWNED REAL OR PERSONAL PROPERTY.

This was expressly decided by this Court in ***Ohio Oil Co. v. Indiana,*** **177 U. S. 190 (1900).**

Also *Oklahoma v. Kansas Natural Gas Co.,* 221 U. S. 229 (1911), *supra.*

Kansas Natural Gas Co. v. Haskell,* 172 Fed., 545 (1909), affirmed by this Court in *Oklahoma v. Kansas Natural Gas Co., supra.

***Manufacturers Gas & Oil Co. v. Indiana Natural Gas & Oil Co.,* 155 Ind., 545 (1900).**

III.

THE TRANSMISSION OF NATURAL GAS THROUGH PIPE LINES FROM POINTS WITHIN ONE STATE, INTO OR THROUGH OTHER STATES, WHEN THE PIPE LINES AND THE GAS TRANSMITTED THEREIN CROSS AND RE-CROSS THE STATE LINE, CONSTITUTES INTERSTATE COMMERCE.

In the recent case of *Pennsylvania Gas Co. v. Public Service Commission of New York*, 252 U. S. 23, (1920), the court by Mr. Justice Day said, (p. 28):

> "We think that the transmission and sale of natural gas produced in one State, transported by means of pipe lines and directly furnished to consumers in another State, is interstate commerce within the principles of the cases already determined by this court. *West v. Kansas Natural Gas Co.*, 221 U. S. 229; *Haskell v. Kansas Natural Gas Co.*, 224 U. S. 217; *Western Union Telegraph Co. v. Foster*, 247 U. S., 105. * * *"

This case affirmed the decision of the New York Court of Appeals, *Pennsylvania Gas Co. v. Public Service Commission*, 225 N. Y. 397 (1919), in the course of which Cardozo, J., said, (p. 402):

> "We think the petitioner's business is interstate commerce. There is no doubt that the transportation of oil or gas from state to state through the medium of pipe lines is commerce between the states. *West. v. Kansas Natural Gas Co.*, 221 U. S. 229; *Haskell v. Kansas Natural Gas Co.*, 224 U. S. 217; *Haskell v. Cowham*, 187 Fed. Rep. 403."

In *Public Utilities Comm. of Kansas v. Landon*, 249 U. S. 236 (1919), the same proposition was established.

Mr. Justice McReynolds, said, (p. 245):

> "That the transportation of gas through pipe lines from one State to another is interstate commerce may not be doubted. Also, it is clear that as part of such commerce the receivers might sell and deliver gas so transported to local distributing companies free from unreasonable interference by the State. *American Express Co. v. Iowa*, 196 U. S. 133, 143; *Oklahoma v. Kansas Natural Gas Co.*, 221 U. S. 229; *Haskell v. Kansas Natural Gas Co.*, 224 U. S., 217."

The same conclusion had been reached nearly a quarter of a century earlier, in *State ex rel. Corwin v. The Indiana & Ohio Oil, Gas & Mining Co.*, 120 Ind. 576 (1889), reviewed and explicitly reaffirmed in *Manufacturers Gas & Oil Co. v. Indiana Natural Gas Co.*, 155 Ind. 545 (1900).

It is well established by decisions of this Court that even where the transmission or transportation of legitimate articles of commerce is from and to points in the same State, where the transportation lines cross and recross the State line, it is interstate commerce within the constitutional protection.

See *Hanley v. Kansas City Southern R. Co.*, 187 U. S. 617 (1902).

Western Union Telegraph Co. v. Speight, 254 U. S. 17 (1920).

The means of conveyance, the distances of the transportation in the respective States, the number of crossings, the character or manner of the passage back and forth or the frequency thereof, in no way change the interstate character of the commerce, or the Federal control of the same.

Gloucester Ferry Co. v. Pennsylvania, 114 U. S. 196 (1885).

Covington etc. Bridge Co. v. Kentucky 154 U. S. 204. (1893).

IV.

THE TRANSMISSION OF NATURAL GAS BY PIPE LINES, FROM THE PRODUCING CENTERS OF WEST VIRGINIA TO THE CONSUMING CENTERS OF PENNSYLVANIA, OHIO AND OTHER STATES, CONSTITUTES AN ACT OF COMMERCE, AMONG THE SEVERAL STATES, OF SUCH A NATURE AS TO BE NATIONAL IN CHARACTER, AND TO ADMIT OF AND REQUIRE A UNIFORM SYSTEM OR PLAN OF REGULATION.

Natural gas in commercial quantities cannot be stored; it must be transmitted by pipe lines from the mouth of the well to the ultimate consumer. Pipe lines are the universally recognized method for such transmission. The normal, universally followed, and most scientific method of marketing natural gas is to turn it from the well immediately into the pipe line, through which it is transmitted on the first part of its journey by its power of expansion, having been held in compression by nature while in the sand-rock. This compression is commonly called the rock pressure. This rock pressure forces the gas from the bottom of the well to the mouth and thence into the pipe lines. On these pipe lines at intervals are established compressor stations, some of which are of many thousand horse-power. These place the gas under compression while in the lines, and by expansion the gas continues on its journey, passing en route perhaps through several compressor stations.

From the instant it enters the pipe lines the gas is never at rest, but is always in motion, sometimes in one

direction and sometimes in another; its course being towards the point of lowest pressure on the lines at the instant, so the movement may be in opposite directions from hour to hour. It is always, as stated, instinct with life, superinduced in the first instance by its expansion from its compression under the natural rock-pressure, and later by its expansion from compression by the various compressor stations located along the lines and perhaps in several States.

The term "pumping station," as used on oil and water lines, is sometimes applied to natural gas lines, but this is a misnomer; the gas is not forced or driven, but travels by its power and propensity of expansion, after being compressed.

None of this gas is ear-marked. No particular thousand feet is destined for any particular point on the lines. All the gas that enters the pipe-line system, perhaps from fields in two or three States, or several fields in the same State, becomes commingled and is not-separable, and moves now here and now there, according to the current, as above explained, until it reaches the local distributing mains and ultimate consumer. The title to the gas is in the pipe-line company. The natural gas companies are not engaged in transporting gas for others, but in transmitting their own gas, which they sell at so much per thousand feet delivered. All of the large interstate companies start the gas on its journey from one State to another to be delivered to the consumer in such other State. The destination is foreordained; that is, delivery to purchasers in such other States.

The continuous and usual course of business, and the commitment of the gas company to supply the con-

sumers' requirements from hour to hour and day to day, determine the character of the shipment and the point and place of delivery.

The gas thus entering the lines in West Virginia is destined for and moves in the normal, contemplated and followed course, as continuous and rapid as science can make it, to the consumers in Pennsylvania, Ohio, Indiana, Kentucky, Maryland, and other States. Some gas from all these other States may enter the lines and become commingled with the gas from West Virginia, while en route from West Virginia to consumers in these other States; or some of this gas from other States, when the movement of the current in the lines is towards West Virginia, may be supplied to consumers in West Virginia.

The gas in the pipe-line system of any company crossing the State lines, is so transmitted from State to State under contracts for the sale and delivery thereof to consumers in such other States.

The interstate gas companies having pipe lines extending from West Virginia into Pennsylvania, Ohio, and other States, made contracts to supply gas to consumers in those States. These interstate companies produce or purchase gas in West Virginia, and after it enters their pipe lines they transmit or transport it from West Virginia to consumers in other States for delivery under their said contracts. Their pipe lines through which this transmission or transportaton is being conducted, are only the vehicle by which the gas—the article sold—is conveyed from West Virginia and delivered to said purchasers. There is no separate charge for transportation or transmission. The gas is sold delivered at

the point of consumption, and while the pipe lines are a transportation or transmission system—unlike railroads, telegraph lines and the like, they are not engaged in the separate business of transportation. The transaction, therefore, is primarily a contract of sale of a specific article delivered at the point of consumption or transmission as distinguished from the contract of transportation or transmission.

However, it is interstate commerce, considered both as a purchase and sale, and also as transportation.

Such purchase and sale of gas and transmission thereof through pipe lines from State to State is that kind or character of interstate commerce which has been declared again and again by this Court to be national in character, to be governed by a uniform system or plan of regulation. Such uniformity and plan Congress alone can supply, exclusive of regulation or attempt at control by the respective States in which the purchase and sale takes place, or through which the transmission or transportation is made.

Inextricable confusion, delay and uncertainty would result, if each State through which the pipe lines passed would undertake to make separate and distinct regulations.

Oklahoma v. Kansas Natural Gas Co., 221 U. S., 229 (1911), *supra.*

Haskell v. Kansas Natural Gas Co., 224 U. S., 217 (1912), *supra.*

Pennsylvania Gas Co. v. Public Service Commission of New York, 252 U. S., 23 (1920).

Public Utilities Commission v. Landon, 249 U. S., 236 (1919), *supra.*

***Landon, Receiver v. Public Utilities Commission of Kansas,* 242 Fed., 658; C. C. A., (1917).**

***Pennsylvania Gas Co. v. Public Service Commission of New York,* 225 N. Y., 397 (1919).**

***State ex rel. Corwin v. Indiana & Ohio Oil, Gas & Mining Co.,* 120 Ind. 576 (1889).**

Judge Sanborn, in *Haskell v. Cowham,* 187 Fed., 403 (1911), said (p. 408):

> "Interstate commerce in natural gas, including therein its transportation among the States by pipe lines, is a subject national in its character and susceptible of regulation by uniform rules. The silence or inaction of Congress relative to such a subject is a conclusive indication that it intends that interstate commerce therein shall be free, and any law or act of a state or of its officers which prohibits it or substantially restrains its freedom is violative of the Constitution and void." (Citing authorities).

These natural gas cases present a modern application of this Court's well-settled and long-established interpretation of the Commerce Clause of the Federal Constitution to the effect that the sale or exchange and transportation of commodities between the States is of national importance and admits of and requires uniformity of regulation and therefore no State has power to interfere with, regulate or burden, much less prohibit, such sale and transportation. A brief reference to a few of these cases is accordingly here made. The sale of gas and its transportation or transmission from State to State comes within the established rule.

The question of what constituted such national character of the subject matter of interstate commerce

as to bring it within the exclusive Federal commerce power, was before the court in *Reading Railroad Co. vs. Pennsylvania* (The State Freight Tax Case), 15 Wall. (82 U. S.) 232 (1872).

Mr. Justice Strong said, (p. 279):

> " * * * the rule has been asserted with great clearness, that whenever the subjects over which a power to regulate commerce is asserted are in their nature national, or admit of one uniform system or plan of regulation, they may justly be said to be of such a nature as to require exclusive legislation by Congress. *Surely transportation of passengers or merchandise through a State, or from one State to another, is of this nature.*"

(The italics are ours).

In *Welton v. State of Missouri,* 91 U. S. 275 (1875), the opinion, written by Mr. Justice Field, has been widely quoted in this and other courts. Speaking of the fundamental constitutional principles involved, he observed, (p. 279):

> "Commerce is a term of the largest import. It comprehends intercourse for the purpose of trade in any and all of its forms, including the transportation, purchase, sale and exchange of commodities between the citizens of our country and the citizens or subjects of different states. The power to regulate it embraces all the instruments by which such commerce may be conducted. So far as some of these instruments are concerned and some subjects which are local in their operation, it has been held that the states may provide regulations until Congress acts with reference to them; but where the subject to which the power applies is national in

its character, or of such a nature as to admit of uniformity of regulation, the power is exclusive of all state authority.

It will not be denied that that portion of commerce with foreign countries and between the states, which consists in the transportation and exchange of commodities, is of national importance, and admits and requires uniformity of regulation. The very object of investing this power in the General Government was to insure this uniformity against discriminating State legislation."

(The underscore is ours).

In *Gloucester Ferry Co. v. Pennsylvania*, 114 U. S. 196, (1885), the Court, said, (p. 203):

"And it needs no argument to show that the commerce with foreign nations and between the states which consists in the transportation of persons and property between them, is a subject of national character and requires uniformity of regulation. Congress alone, therefore, can deal with such transportation, its non-action is a declaration that it shall remain free from burdens imposed by state legislation. Otherwise there would be no protection against conflicting regulations of different states, each legislating in favor of its own citizens and products, and against those of other states. It was from apprehension of such conflicting and discriminating state legislation, and to secure uniformity of regulation, that the power to regulate commerce with foreign nations and among the states was vested in Congress."

(Underscore ours.)

The law is well summarized in the opinion of this Court, in *County of Mobile v. Kimball*, 102 U. S. 691, 697, (1880), where it is said:

> "The subjects indeed upon which Congress can act under this power are of infinite variety, requiring for their successful management different plans or modes of treatment. Some of them are national in character, and admit and require uniformity of regulation, affecting alike all the states; others are local, or are mere aids to commerce, and can only be properly regulated by provisions adapted to their special circumstances and localities. *Of* the former class may be mentioned all that portion of commerce with foreign countries or between the states which consists in the transportation, purchase, sale and exchange of commodities. Here there can of necessity be only one system or plan of regulation, and that Congress alone can supply; its non-action in such cases with respect to any particular commodity or mode of transportation is a declaration of its purpose that the commerce in that commodity, or by that means of transportation, shall be free. There would otherwise be no security against conflicting regulations of different states."

(The underscore is ours).

In *Leisy v. Hardin*, 135 U. S., 100 (1890), it was said:

> "Whenever, however, a particular power of the general government is one which must necessarily be exercised by it, and Congress remains silent, this

is not only not a concession that the power reserved by the states may be exerted as if the specific power had not been elsewhere reposed, but on the contrary the only legitimate conclusion is, that the general government intended that power should not be affirmatively exercised, and the action of the states cannot be permitted to effect that which would be incompatible with such intention. Hence, inasmuch as interstate commerce, consisting in the transportation, purchase, sale and exchange of commodities, is national in its character and must be governed by a uniform system, so long as Congress does not pass any law to regulate it, or allowing the states so to do, it thereby indicates its will that such commerce shall be free and untrammelled."

(The underscore is ours).

Authorities could be greatly multiplied if necessary.

Gas is sold by the owner in West Virginia to purchasers in Pennsylvania and Ohio, and other States. This was a transaction of interstate commerce of purchase and sale. The delivery by the vendor through his pipe line from West Virginia to these other states was a transaction in interstate commerce in transportation. It was of such a character, both as a purchase and sale and as transportation, as gave to the Federal Government sole control.

These interstate gas companies are public service corporations in all the States through which their lines pass. In all of these States, except Maryland, gas is produced or purchased by them and introduced into their lines. In several instances the lines of the same company pass out of and back into West Virginia at several points, supplying consumers both while out of and

within West Virginia. Unlike railroad transportation, in natural gas transmission the motive power is not exerted immediately at the point of transportation, in the carriage of the load. The compressor station influencing the delivery at a certain point may be in another State from the point of delivery, or several compressor stations in several states at the same instant may influence this delivery. Again in transportation by rail, a part of the load may be taken off at one point or another, without affecting the carriage of the remainder. In transmission of natural gas the taking out of the lines of a comparatively small percentage of the gas in transit may so reduce the pressures as to prevent transmission of any of the remainder. So, too, transportation by rail is a separate and distinct transaction from the purchase and sale of the commodity carried. Not so with natural gas, the transmission being only an incident of the sale and delivery. Therefore if different States through which the lines pass can enact different rules and regulations for the sale, transmission and delivery of this gas, confusion worse confounded will inevitably result. If West Virginia can pass such a law as the statute in controversy, so could each of the other States, and all of them could provide different kinds of rules and regulations for the operation of the pipe lines and the sale and delivery of gas. Imagine the confusion, the paralysis, of interstate commerce that would ensue. No better illustration can be conceived than these interstate natural gas companies, for the application of the rule above referred to, adopted by this Court, namely: That where the commerce between the States consists of the transportation, purchase, sale and exchange of commodities, there can of necessity be only one system or plan of regulation, which Congress alone can supply.

V.

THE OBVIOUS PURPOSE AND EFFECT OF THE WEST VIRGINIA STATUTE IS NOT ONLY TO BURDEN, INTERFERE WITH AND REGULATE INTERSTATE COMMERCE, BUT TO ABSOLUTELY PROHIBIT AND PREVENT THE SAME BY PROHIBITING AND PREVENTING THE TRANSMISSION OF NATURAL GAS OUT OF SAID STATE.

If this statute can be enforced, in accordance with its purpose, as demanded by the State of West Virginia, and its purpose can be interpreted, as set forth in the Answer of said State, all of the natural gas produced in West Virginia would be conserved for the use of the consumers in West Virginia, and consumers in other States would be cut off from and deprived of any natural gas supply from the State of West Virginia.

The statute in express terms provides that all classes of consumers in West Virginia, domestic, industrial and others, shall each and all be furnished with a reasonably adequate gas supply. This reverses the present policy of all natural gas companies to prefer domestic consumers and to conserve the supplies of natural gas as far as practicable for the use of domestic consumers.

Under the statute, the consumers of the whole State,—domestic, industrial and others,—are treated as a unit, and each and every natural gas company in the State is obligated by the statute to supply these consumers wherever situate in that State. However limited or circumscribed may have been the appropriation by the gas company of its property, gas production, or pipe

lines, in their devotion to the public use, whether limitations of the use by certain classes of consumers, or limitations of territory of such use, the statute makes each and every gas company in the State devote all of its production and all of its pipe lines to every class of consumers and to every part of the State, however remote from the territory in which such gas company had proposed to do business.

The State of West Virginia in its Answer seeks to justify the imposition of these arbitrary and extraordinary powers of operation and control of the pipe line systems of these natural gas companies, and the right to commandeer their gas, upon the grounds, first, that "the 'West Virginia gas of the persons, firms and corporations in said statute mentioned required for the reasonably adequate supply of the public in West Virginia is affected with the use or interest of said public which is superior and prior to any introduction theerof into intertsate commerce," and so long as this natural gas is being transported through the mains or pipes of public service gas companies in that State and while the gas is in such mains and pipe lines it is subject to the public service of West Virginia, and accordingly such public service companies subject to such service must observe and perform the duties imposed by law upon public service gas companies. The duty to be imposed by this law, under this statute, is to deliver to every consumer in West Virginia, of every class, wherever situated, an adequate gas supply.

The evidence in the case (see the digest thereof in the separate volume pp. 99, 143), practically uncontradicted, but in any event overwhelming, establishes that the necessary effect and inevitable consequence of carrying out the provisions of said statute will be:

FIRST. To appropriate to consumers in West Virginia all the natural gas produced in West Virginia, because the industrial and other consumers in West Virginia, if adequately supplied, together with the domestic consumers, will demand and consume all the natural gas now produced in that State, without considering the rapid diminution of the supply now going on.

SECOND. To so demoralize the transportation systems of the interstate natural gas companies engaged in transporting natural gas to consumers in other States, as to wholly prohibit and prevent, during certain periods, the transportation of any gas out of the State of West Virginia to consumers in other States.

The purpose and intent of the statute in controversy is palpably an effort on the part of the State of West Virginia to keep its natural gas supply for the exclusive use and benefit of the people of the State of West Virginia, and the Answer not only admits this but asserts the legal right of the State so to do.

Can a State by indirection, by circumflexion, where the purpose is manifest and the Answer of the State so admits, and the result inevitable, accomplish this purpose, under the guise of regulating its own public service corporations, when those corporations are engaged in interstate commerce?

While so engaged in interstate commerce these companies are the public service corporations of the nation as well as the state, and their duties and obligations, as such, are paramount to any obligation to the State.

This principle is the very pith and kernel of the decision of this Court in *Oklahoma v. Kansas Natural*

Gas Co., 221 U. S. 229 (1911), *supra*. In that case the Attorney General of the State declared that the question before the Court was the right of the State of Oklahoma to conserve its gas supply for its own use.

Mr. Justice McKenna, delivering the opinion of the Court, said, (p. 254):

> "In other words, the purpose of its conservation is in a sense commercial, the business welfare of the state, as coal might be, or timber. Both of those products may be limited in amount, and the same considerations of the public welfare which would confine gas to the use of the inhabitants of a state would confine them to the inhabitants of the state. If the states have such a power a singular situation might result. Pennsylvania might keep its coal, the Northwest its timber, the mining states their minerals. And why may not the products of the field be brought within the principle? Thus enlarged, or without that enlargement, its influence on interstate commerce need not be pointed out. To what consequence does such power tend? If one state has it, all states have it; embargo may be retaliated by embargo, and commerce will be halted at state lines. And yet we have said that in matters of foreign and interstate commerce there are no state lines. In such commerce, instead of states, a new power appears and a new welfare, a welfare which transcends that of any state. But rather let us say it is constituted of the welfare of all of the states, and that of each state is made the greater by a division of its resources, natural and created, with every other state and those of every other state with it."

See also:

Haskell v. Kansas Natural Gas Co., 224 U. S., 217 (1912), *supra.*

State ex rel. Corwin v. Indiana & Ohio Oil, Gas and Mining Co., 120 Ind. 575 (1889), *supra.*

Manufacturers Gas & Oil Co. vs. Indiana Natural Gas & Oil Co., 155 Ind. 545, (1900) *supra.*

The State of West Virginia, in enacting the statute in controversy, is not the first to attempt by indirection, by various pretexts and subterfuges, that which it could not do directly. This has been shown in some of the cases hereinbefore cited in which the analysis by this and other courts of statutes of other States, showed that they had been passed for the purpose of prohibiting the export of gas from one State to another, which purpose was not directly expressed, the real purpose being concealed. Though more or less concealed by divers and sundry provisions of the respective statutes, if the intent thereof to prevent the transportation of gas from out the State to other States was finally disclosed, the statute has invariably been denounced by the courts as unconstitutional.

One of the most adroit and ingenious attempts thus to conceal the true purpose of such statutes was that made by the draftsman of the Indiana statute of March 4, 1891. This statute prohibited the transmission of natural gas through pipe lines at a greater pressure than 300 pounds to the square inch. It forbade the use of artificial acceleration of the natural flow of the gas. This would prevent the use of compressor stations, which are necessary if the gas is to be transmitted any considerable distance. All of these regulations on their face looked like police regulations within the power of

the individual States. But the statute was declared by the New Jersey Court to be in effect an attempt to prevent the transportation of natural gas without the territorial limits of Indiana, and it was accordingly declared unconstitutional.

This decision by the New Jersey court was cited with approval by this Court in the leading case in this Court, already referred to, of *Oklahoma v. Kansas Natural Gas Co.*, 221 U. S., 229.

The New Jersey case above referred to is *Benedict v. Columbus Construction Co.*, 49 N. J. Eq., 23, 23 Atl., 485. The New Jersey court, in a stockholders' suit, construing the Indiana Act, declared, in the words of Chancellor McGill, (p. 37):

> "The Supreme Court of Indiana, by its decision in the Jamieson case, has merely said that the pressure prescribed by the act of March 4, 1891, is presumptively reasonable as a police regulation. Reverting to the act of 1891, it is perceived that its title contemplates not only the 'regulation' of transportation of gas, but also the 'procuring and using' it. It forbids the owner of a gas well to take gas therefrom by artificial means. He must allow the gas to flow to him. Then, he must restrict the flow, if it should enter his pipes at a pressure in excess of 300 pounds to the square inch, to that pressure, and then although his pipes may be of equal strength along their entire line, and although friction lessens the pressure at the rate of from five to eight pounds per mile, he must do nothing to counteract the effect of the friction to maintain the pressure which the legislature admits is safe and reasonable. It requires but a simple mathematical calculation to ascertain that the effect of this law is to limit the

transportation of gas to a radius of about 60 miles from the gas wells, and to restrict it within the territorial limits of the state of Indiana. * * * I cannot escape the conviction that the purpose of the provision considered was to prevent the transportation of gas without the terriorial limits of Indiana.

Such a purpose is unlawful, in that it seeks to impose a burden upon interstate commerce, which directly and substantially interferes with its freedom * * *"

Burdens, regulations, restraints and interdictions, in no proportion as direct and effective upon interstate commerce as this West Virginia statute, have been denounced again and again by this Court as unconstitutional.

Should this Court desire to further pursue this inquiry an examination of the following cases will demonstrate the accuracy of the foregoing statement:

Brown v. Maryland, 12 Wheat, 419;
The Passenger Cases, 7 Howard, 286.
Henderson v. Mayor, 92 U. S. 259.
Chy Lung v. Freeman, 92 U. S. 295.
Almy v. California, 65 U. S. (24 How.) 169.
Crandall v. Nevada, 73 U. S. 35.
Woodruff v. Parham, 75 U. S. 123.
State Freight Tax Case, 82 U. S. 232.
Hall v. DeCuir, 95 U. S. 485.
Railroad Co. v. Husen, 95 U. S. 465.
Ferry Co. v. Pennsylvania, 114 U. S. 196.
Wabash v. Illinois, 118 U. S. 557.
Robbins v. Shelby Dist., 120 U. S. 489.

Bowman v. R. R. Co., 125 U. S. 465.
Leisy v. Hardin, 135 U. S. 100.
Lyng v. Michigan, 135 U. S. 161.
McCall v. California, 136 U. S. 104.
Minnesota v. Barber, 136 U. S. 313.
Crutcher v. Kentucky, 141 U. S. 47.
Covington Bridge Co. v. Kentucky, 154 U. S. 204.
Railroad Co. v. Eubank, 184 U. S. 27.
American Express Co. v. Iowa, 196 U. S. 133.
Rearick v. Pennsylvania, 203 U. S. 507.
West. Un. Tel. Co. v. Kansas, 216 U. S. 1.
Int. Text Book Co. v. Pigg, 217 U. S. 91.
Buck Stove Co. v. Vickers, 226 U. S. 205.
Railway Co. v. Covington, 235 U. S. 537.
West. Un. Tel. Co. v. Foster, 247 U. S. 105.

The evidence in this case establishes that the West Virginia statute will, if enforced, directly and immediately interfere with, burden and prohibit not only the transmission of natural gas from State to State, but that also the management and operation of gas companies in these other States, which rely upon West Virginia gas, will likewise be affected and they will be prevented from performing the public service and other obligations they have lawfully and in good faith assumed in such other States.

It is significant that this Court has been quick to point out and condemn this extra-territorial effect of State statutes, and to emphasize its repugnancy to the Commerce Clause of the Federal Constitution.

This Court dwelt upon this feature as the one chiefly objectionable in the State Acts before the Court and one of the reasons why such Acts should be declared

unconstitutional, in the following cases, which were cited, together with others, in the cases immediately preceding:

Case of State Freight Tax, 15 Wall. (82 U. S. 232).
Hall v. De Cuir, 95 U. S. 485, 488.
Wabash etc. Ry. Co. v. Illinois, 118 U. S. 557, 572, 575.
Bowman v. Chicago etc. Ry. Co., 125 U. S. 465, 498.
Minnesota v. Barber, 136 U. S. 313, 322.
L. & N. R. Co. v. Eubank, 184 U. S. 27, 34 *et seq.*
American Express Co. v. Iowa, 196 U. S. 133, 143.
West. Un. Tel. Co. v. Kansas, 216 U. S. 1, 30.
So. Covington & Cinc. St. Ry. Co. v. Covington, 235 U. S. 537.

As previously stated, there is practically no conflict of testimony to the effect that the enforcement of this West Virginia Act will necessarily and inevitably result in absolutely prohibiting and preventing the transmission or transportation of natural gas from West Virginia to other States.

S. S. Wyer, the great natural gas expert, employed by the United States Government, testified, at pages 969. 970, of the Record:

> "The enforcement of the Act in question would immediately bring about a condition where in the immediate future the demand solely within the State of West Virginia for natural gas would be greater than the available supply and there would be no gas left for interstate transportation through the main lines now going out of the State."

T. O. Sullivan, of the Hope Natural Gas Company, said, pages 226 and 227:

> "If the natural gas companies operating in the State of West Virginia were compelled to furnish all of the gas that might be required for use within the State, in my opinion it would be only a comparatively short time until there would be a sufficient demand to use all of the gas that is produced."

The witness further described the time as "possibly a year, maybe two years."

John B. Corrin, of the Connecting and Reserve Companies, said, pages 326 *et seq.*:

> "I do not see how it would be possible to operate any gas system of lines if you could not determine the amount of gas that was going to go through those lines and if some person or city or otherwise took gas off the lines before it reached your consumers. In addition, you could not retain any of your consumers yourself because the service that would be rendered would be uncertain and undependable, and in fact I don't believe that it would be practicable to maintain a gas company if that condition existed."

H. A. Wallace, of the United Fuel Gas Company and Cabin Creek Gas Company, said, pages 368 *et seq.*:

> "I feel that in a very short time, in cold weather especially, we would have no gas to transport out of the State, and for that reason I do not believe domestic consumers and other people would care to be connected to our lines if they could only receive a supply of gas during the summer season and in

the winter time when they absolutely needed the gas for heating and lighting and comfort, to have the supply discontinued, they naturally would not care to use gas for fuel."

John B. Tonkin, of the Peoples Natural Gas Company, said, page 429:

"I think that after one winter of that, our consumers would probably want to leave us; that they wouldn't put up with the inconveniences and the suffering that they would have to go through under those conditions."

And again:

"It is my opinion that the demand on their line (Hope Company's) would be so great from companies doing business in West Virginia and from industrial plants there that there would be no gas left in cold weather to distribute to the Peoples Natural Gas Company."

Martin B. Daly, of the East Ohio Gas Company, said, pages 558 *et seq.*:

"The effect on our gas companies would be that they would be obliged to discontinue natural gas altogether. That must be the ultimate result."

J. K. Anderson, natural gas engineer, said, pages 825 *et seq.*:

"Q. From the figures and estimate which you have made with reference to the increased consumption of industrial gas in the State of West Virginia, under the operation of the act now in controversy, if it goes into effect, state whether or not, in your opinion, that increased consumption would consume substantially all of the gas produced in West Virginia?

A. It will, within a few years.

Q. Within what length of time would you say?

A. I would say within a year and a half from the date of the effectiveness of the act."

The evidence on this subject has been collated in the digest of evidence made by complainants, particularly under Section 8, page 143, but also under Section 6, page 99, and Section 7, page 126.

All of the operating heads of the great interstate natural gas companies, operating in West Virginia, testified to the same effect. They were: Mr. Quay, of The Manufacturers Light & Heat Company; Mr. Sullivan, of the Hope Natural Gas Company; Mr. Corrin, of the Reserve Gas Company; Mr. Tonkin, of the Peoples Natural Gas Company; Mr. Daly, of the East Ohio Gas Company; Mr. Jones, of the Columbus Gas & Fuel Company, etc.; Mr. Denning, of the Ohio Fuel Supply Company; Mr. Whitcomb, of the Union Natural Gas Corporation; Mr. Wallace, of the United Fuel Gas Company; Mr. Reed, of the Philadelphia Company, and the Pittsburgh & West Virginia Gas Company; Mr. McMahon of the Northwestern Ohio Natural Gas Company; Mr. Angle, of the Fayette County Gas Company; and the two natural gas engineers and experts, Mr. Wyer and Mr. Anderson.

The testimony of these witnesses is not contradicted by any of the evidence introduced in this case.

VI.

THE OBVIOUS AND DECLARED PURPOSE AND THE EFFECT OF SAID WEST VIRGINIA STATUTE IS TO DISCRIMINATE AGAINST CONSUMERS IN OTHER STATES IN FAVOR OF AND TO AND FOR THE COMMERCIAL, ECONOMIC AND OTHER ADVANTAGE OF CONSUMERS IN WEST VIRGINIA.

The argument on the Fourth Proposition hereinbefore was based on the contention that the sale and transportation of gas from state to state was interstate commerce of such a nature as to be national in character and to admit of and require a uniform system or plan of regulation.

The argument under the Fifth Proposition preceding was primarily upon the contention of complainant that the statute in controversy by its necessary operation would entirely prohibit and prevent interstate commerce in natural gas by confining its consumption to the State of West Virginia. The argument upon the Sixth Proposition above stated is founded upon the contention that even if the interstate commerce sought to be regulated by said statute was not of that national character and to admit of and require a uniform system or plan of regulation, and even if the statute did not wholly prohibit and prevent the exportation of gas from the State, nevertheless it is a discrimination unmistakably and unavoidably in favor of consumers in West Virginia and against consumers in other States, and therefore is such a burden upon, interference with, and regulation of interstate commerce, as has always been denounced by this Court.

As has already been argued, from the text of the statute, the admissions in the Answer and the proofs in the case, the purpose of the statute in controversy was to keep for the use of consumers in West Virginia, until they were adequately supplied, the natural gas produced in that State. Consumers in West Virginia, regardless of consumers in other states, and at any cost to said consumers in other states, were to have an adequate gas supply. All consumers in West Virginia, domestic, industrial and others, and throughout the entire territory of the State, were to have such adequate gas supply, even if by providing such adequate supply the consumers in other States were given an inadequate supply, an intermittent supply, or no supply at all.

The evidence shows that there are millions of people in Pennsylvania, and even a larger number in Ohio, and large numbers in other States, who are dependent for their gas supply upon the gas produced in and exported from West Virginia.

The evidence further shows that under the operation of the statute in controversy, while consumers in West Virginia might engage in a natural gas "spree" or "debauch," at the same time consumers in other States would be starved for light or heat and would suffer accordingly in health, comfort, convenience, and to the extent perhaps of jeopardizing life.

The evidence further shows that under the operation of the statute in controversy while consumers in West Virginia would be obtaining an adequate supply, consumers in other States would not know from day to day or hour to hour upon what if any supply of natural gas they could depend. They would be in the position

of the man dying of thirst holding his parched lips to the closed spigot of a tank from which the contents were being drawn through the suction pipe of a pump in West Virginia. When the spigot was opened, whether or not his thirst would be satiated would depend on the length and the strength of the suction.

The hazardous, dangerous, intolerable and unbearable conditions under which consumers in other States under this statute would have to use gas supplied by the interstate gas companies, exporting gas from West Virginia, if they could use it at all, have been fully described. The West Virginia consumer could view the plight of these consumers in other states with complacency and assurance because protected by this statute, even though there be commingled with this self-satisfaction some pity that these unfortunates do not live in West Virginia to reap the benefit of this discriminatory statute.

It is hardly conceivable, under the averments of its Answer, that the State of West Virginia would attempt in this Court to deny that the purpose and intent of the statute in controversy was to discriminate in favor of West Virginia consumers against consumers in other States. In an exuberance of caution, however, and at the risk of wearying this court this question will now be fully considered.

This purpose and intent are demonstrated as follows:

FIRST: By the text of the statute itself, considered in connection with the nature and conditions of the natural gas industry in West Virginia and other States.

SECOND: From the history of events which led up to the enactment of said statute, as shown by the

evidence, as set forth by the State of West Virginia in its Answer, and as testified to by the Governor of West Virginia.

THIRD: From the legal positions taken in the Answer made in this case by the State of West Virginia.

FIRST: The express terms of the statute, and the nature and character of the natural gas business, demonstrate that the intent and purpose of the statute in controversy were to discriminate in favor of West Virginia consumers and against consumers in other States. The statute requires every gas company in the State to furnish gas for domestic, industrial or other purposes, to the public of the whole State of West Virginia.

The statute further provides that in case any gas company supplying any part of the public in West Virginia has a deficit, every other gas company can be compelled to make connections with such company, and, during the time of said deficit, make up the same.

Certain regulations and principles have grown up with and been developed by the experience of the natural gas business,—among others, the necessity of preferring domestic consumers to industrial consumers, and, for this purpose, at times of cutting off the industrial consumers. All of the contracts offered in evidence in this case made by the respective gas companies provide for this in express terms, as by reference thereto will more fully appear, and are made subject to the right of the company agreeing to supply gas to other gas companies to first supply its domestic consumers.

The Answer of the State of West Virginia admits that many of the gas companies have withdrawn or attempted to withdraw altogether their industrial classifications, and do not hold themselves out as willing to supply industrial consumers; but denies that the gas companies supplying gas in West Virginia have the right to withdraw their service to industrial consumers except to the extent necessary to furnish an adequate supply to the domestic consumers in West Virginia.

Without, therefore, invoking for the purpose of the argument on this particular question, the evidence already referred to and discussed,—that under the statute West Virginia consumers would preempt all of the gas that could be produced in West Virginia, and that the operation of the interstate lines would be wholly disorganized, so that no gas could be transmitted through such lines into other States,—it necessarily follows from the requirements of the statute itself and the nature and history of the business that the consumers in West Virginia during cold weather would take all of the gas produced in West Virginia, and that during such periods the transportation of any gas from West Virginia to other States would be prevented. It cannot be doubted that, if the terms of the statute are enforced, at least in cold weather, during the "peak load" periods, the demands of West Virginia consumers must be supplied at the expense and to the disadvantage of, and in discrimination against, consumers in all other States. There is no other source from which this adequate gas supply can be given to West Virginia consumers during such periods, except from the quantity intended for and being transmitted to other States. It is a simple mathematical proposition. If during "peak load" periods there is not enough gas to go around, that is, to supply con-

sumers in West Virginia and other States, for example, a billion feet, and consumers (domestic, industrial and others) in West Virginia must be first furnished with an adequate supply, taking the whole billion feet, before the balance, if any left, can be transported to such other States, then the amount necessary to supply West Virginia consumers must be taken away from consumers in such other States.

SECOND: The history of the events leading up to the enactment of the statute is not left in doubt. Complainant's witnesses gave such history. The State of West Virginia in its Answer details the event on account of which it states specifically the statute was enacted.

In its Answer the State of West Virginia gives the history of the development of the natural gas industry in that State, shows how the gas produced was at first disposed of to local communities in that State, and that as the quantities of gas produced increased, and no market therefor could be found in West Virginia, markets in other States were sought; that the great interstate pipe lines were accordingly laid, and the gas was then delivered and sold in such other States; that this course of dealing has continued for over a quarter of a century; that these interstate gas companies accordingly, which were engaged in the business of supplying gas to the public in West Virginia, afterwards also engaged in the business of transporting for sale and selling gas for consumption in the markets of these other States.

The Answer sets forth the fact that while at the inception of the interstate business the production of gas in West Virginia was increasing and there was ac-

cordingly a large surplus for export from West Virginia, and while this continued for many years, the production finally declined and is still declining, so that consumers in West Virginia experience a shortage in their supply of gas like consumers in other States.

The Answer alleges that the shortage of gas supplied to people of West Virginia "was and is caused by the transportation to or for consumption in other States," and that the interstate gas companies failed to supply a reasonably adequate service to the public of West Virginia or "to the local gas companies engaged in the service of said public, under the pretext that they were and are prevented from so doing by the necessities of the gas-consuming populations of said other States."

The Answer unequivocally asserts that it was on account of this situation that the statute in controversy was enacted.

It is manifest, therefore—in fact, beyond the range of possible controversy—that this statute was enacted for the express purpose of obtaining an adequate supply of gas for all consumers in West Virginia, domestic industrial and others, at the cost and expense and to the disadvantage of consumers in other States; or, to state the proposition in another form, it was a statute passed to discriminate against consumers in all other States in favor of consumers in West Virginia.

John J. Cornwell, who was Governor of the State of West Virginia at the time this statute was enacted, testified, (pages 1193 to 1197, Transcript of Record), as to the events which led up to the enactment of this statute. He called attention to the complaints that were made to him relative to the inadequacy of service by the gas companies operating in West Virginia, and the demands for relief. He tells about representatives

of manufacturers and other consumers calling upon him, of conferences he had with the gas companies, and then states that he laid the matter before the legislature, or called it to the attention of the legislature, at the regular biennial session of 1919, which enacted this statute and read into the record a part of his message upon this subject, a portion whereof is as follows:

> "With the approach of last winter and the early cold weather there was an acute gas shortage in the central and northern sections of the State, especially for manufacturing purposes, which led to a demand of me by gas consumers for a special session of the legislature to enact a measure under which the gas companies would be compelled to furnish an adequate supply of gas to West Virginia consumers."

He then states that the statute in controversy was passed at that session of the legislature.

The attention of the Court is directed particularly to the statement in this message, that there was a shortage of gas in certain sections "especially for manufacturing purposes."

We have already referred to the general policy of all of these gas companies to prefer domestic consumers, and that it is a universal rule among such companies to reserve the right to cut off or reduce industrial consumers when necessary to supply the domestic consumption, and that this custom and policy and practice were admitted in the Answer of the State of West Virginia. Nevertheless, by the express terms of this statute, the industrial consumers and others in West Virginia (whatever "others" may mean; evidently the draughtsman of the Act was unwilling to allow a single foot of gas if it could be prevented to escape from the grasp of

West Virginians) as well as the domestic consumers, must be furnished an adequate supply of gas, before even the domestic consumers in other States were to be allowed any gas at all. Surely, argument is unnecessary to show this to be the most flagrant discrimination, to the advantage of West Virginia consumers of all classes, against any class of consumers in other States.

THIRD: The Answer of the State of West Virginia leaves no doubt of the purpose and intent of this statute being to discriminate in favor of West Virginia consumers to the disadvantage and against the interest of consumers in all other States. While here and there in this Answer will be found denials in general terms that the purpose and the intent of this statute were to discriminate, &c., such general denials, as also many of the admissions, are qualified by the phrase substantially to the effect, "except as in this Answer otherwise alleged." For example, in Paragraph XV at page 39 of the Answer:

> "This defendant denies that the effect in general of said statute is to give to all consumers in West Virginia a preferential or prior right over consumers in Pennsylvania, but admits that the effect of such statute will be to give to all of the consumers in West Virginia in said statute mentioned to the extent of the gas therein mentioned a reasonably adequate supply of gas, and says that said gas is affected with the use or interest of said public of West Virginia as in this Answer before alleged."

And again, on the same page and in the same paragraph, referring to an averment of the bill of complaint as follows:

"If as expressly provided by said statute a reasonably adequate supply of gas must be given not only to domestic consumers but also to industrial consumers and for other consumption in the State of West Virginia by those engaged not only in intrastate but also those engaged in interstate transportation, and also in furnishing gas for use in West Virginia, then the demand for gas by consumers in West Virginia would so increase as to absorb practically all the gas produced in West Virginia, and prohibit the transportation thereof into Pennsylvania, or at least deplete the supply to such an extent that but a small proportion of the gas now being transported from West Virginia into Pennsylvania will be available for such transportation."

The Answer says:

"This defendant denies the allegation of subparagraph (f) of Paragraph Eleven of said bill, except as in this Answer otherwise alleged."

It is nowhere otherwise alleged.

These general denials so qualified cannot be invoked against the positive and affirmative claims and averments of the Answer. The theory of the State of West Virginia of its right to discriminate follows logically from the categorical statement of the law, as interpreted by it, upon which the State of West Virginia plants itself in its Answer. Defendant says in Paragraph XV of the Answer that it admits that the statute was designed to apply to all who were engaged in the supply of gas to the public of West Virginia, though they were also engaged in the transportation of gas into Pennsylvania and other States.

The Answer admits in Paragraph IX that while gas is or may be an article of interstate commerce, yet such gas in the pipes of public service companies in West Virginia cannot be considered in interstate commerce "unless and until it has reached the point where it is no longer subject to the public service of West Virginia and the duties imposed by law upon public service gas companies have been observed and performed by them."

This is fully explained by Paragraph XV of the Answer where it is claimed that the West Virginia gas required for the reasonably adequate supply of the public in West Virginia is affected with the use or interest of said public which is superior and prior to any introduction thereof into interstate commerce.

The Answer "admits that the effect of said statute will be to give to all of the consumers in West Virginia in said statute mentioned to the extent of the gas therein mentioned a reasonably adequate supply of gas, and says that said gas is affected with the use or interest of said public of West Virginia as in this Answer before alleged."

It clearly appears, therefore, (a) that this statute was passed to obtain for all of the consumers in West Virginia, domestic, industrial and others, an adequate gas supply; (b) that West Virginia claimed that all of said consumers in West Virginia were entitled to this adequate supply before any part of said gas could be taken out of the State in interstate commerce; (c) that West Virginia claimed that the foregoing discrimination in favor of West Virginia consumers was justified because the gas produced in West Vrginia was affected

with the use or interest of the public of West Virginia, which is superior and prior to any introduction thereof into interstate commerce.

Not only is the intent and purpose to discriminate plainly avowed, but the justification therefor under its construction of the law is proclaimed by the State of West Virginia.

If this principle of law contended for by the State of West Virginia is introduced into the body of our Federal laws, a startlingly new principle of far-reaching consequence will result.

As said in the Oklahoma case, of a different attempt there to prevent interstate commerce in natural gas, if this could be done "Pennsylvania might keep its coal, the Northwest its timber, the mining States their minerals. And why may not the products of the field be brought within the principle."

The foregoing deals with the purpose and intent of the statute and the grounds upon which the State of West Virginia claims the right to enact and enforce the same.

Let us now consider what would be the consequence of the enforcement of the statute as discriminating in favor of West Virginia consumers to the disadvantage of the consumers in other States. On cold days, when the domestic consumption in West Virginia is at its peak, and the industrial and other consumption in West Virginia takes out its demands, this must be at the cost and expense of the consumption in other States even of the domestic consumer. The additional amount necessary to furnish an adequate supply to the consumers in West Virginia cannot be calculated

upon a percentage basis, as for example, ten or twenty per cent. for the whole year. The amount taken out will be during those peak-load periods when there is a shortage of supply anyway, perhaps during comparatively short periods, and in consequence will leave nothing for transportation to other States.

The statute gives an option to all consumers in West Virginia, including those improvident local companies, upon the gas supplies of all of the companies, in preference to consumers in other States.

As heretofore stated, the natural gas industry grew up as an interstate business, wholly disregarding State lines, and the natural gas companies, in case of a shortage of gas, as far as possible distributed the gas among all domestic consumers in all the States upon equitable principles.

In place of this, however, the statute seeks to introduce discrimination in favor of the West Virginia consumers of all classes, to the disadvantage of all others.

Let it be emphasized that there is no contention in this case that the West Virginia domestic or industrial consumers have been in any way discriminated against by these interstate companies, or that at all times such West Virginia consumers have not obtained their full proportion of the available supply. In fact, the evidence shows, that the West Virginia consumers have been lavishly supplied as compared with all others, consuming twice as much as those in Pennsylvania and five times as much as those in Ohio.

The question is not, therefore, one of preventing discrimination against West Virginia consumers, for no such thing is even claimed. The statute proposes, not

to prevent discrimination against, but to compel discrimination in favor of, the West Virginia consumers.

Whether or not said statute of West Virginia, by intention and purpose, was to discriminate against interstate commerce, if in its practical operation it discriminates against interstate commerce, it is void as a direct burden upon such commerce in conflict with the Commerce Clause of the Federal Constitution.

In order to hold this statute unconstitutional it is not necessary, as stated in the proposition under which this argument is made, that the statute in its practical operation would wholly prohibit the exportation of gas from West Virginia, like the statute in the Oklahoma case, in 221 U. S. 229; nor is it necessary that the sale and transportation of gas from State to State should be held to be interstate commerce of such nature as to be national in character and to require a uniform system or plan of regulation, although complainant contends for both of those propositions. If the fact is that this West Virginia statute works a substantial discrimination in favor of West Virginia consumers and against consumers in other States, the statute must fall, because it places a burden upon, interferes with and undertakes to regulate, interstate commerce.

There are corollary propositions which may project themselves upon the judicial mind in considering complainant's argument upon this statute, as, for example, whether or not a statute would be sustainable requiring a public service corporation of West Virginia to furnish to its consumers within the State equally as good service as that furnished to consumers in other States, or whether or not the State of West Virginia could require of its public service corporations that they provide an adequate supply to their domestic con-

sumers before transmitting gas outside of the State for purposes other than domestic consumption; but these questions, while interesting to the legal mind, are not in any manner involved in this controversy, and the discussion thereof here would be wholly out of place.

In this case there is no doubt whatever that the gas that is taken out of West Virginia into other States is used in such other States for exactly the same purposes for which that gas is used in West Virginia. It is also undisputed that the consumers in other States enjoy no more consideration than consumers in West Virginia; in fact, that they enjoy much less. It is also clear, as already stated, that the West Virginia statute was not passed to prevent—what did not exist—discrimination against West Virginia consumers.

In practically every case where State laws have been held unconstitutional because they placed burdens upon interstate commerce by discriminating in favor of the State's own citizens against those of other States, they were cases where the State sought to protect the commerce of its own citizens by imposing burdens upon the citizens of other States coming into said State, or property brought into said State, or business transacted in said State. The majority of cases were those requiring payments for licenses by non-residents greater than those paid by residents, or imposing taxes upon goods brought into the State from other States or countries, to be sold in competition with the products of that State, or some regulation affecting the right of non-residents to do business in the State; and wherever any of these attempts have been made, and under whatever guise, this Court has declared the Act unconsti-

tutional because all such Acts discriminated in favor of the State's own citizens against the citizens of other States.

Many cases could be cited of this general character in each of which the principle stated is the same.

The direct question which we have here, of a State undertaking to hold within the State its coal, timber, minerals, products of the field, gas, or other property, for the benefit of its own citizens, has never been raised heretofore, except in the natural gas cases. This Court said in the case of *Oklahoma vs. Kansas Natural Gas Company,* 221 U. S. 229:

> "The State, as we have seen, grants the use of the highways to domestic corporations engaged in intrastate transportation of natural gas, giving such corporations even the right to the longitudinal use of the highways. It denies to appellees the lesser right to pass under them or over them, notwithstanding it is conceded in the pleadings that the greater use given to domestic corporations is no obstruction to them. This discrimination is beyond the power of the State to make. As said by the Circuit Court of Appeals in the Eighth Circuit, no State can by action or inaction prevent, unreasonably burden, discriminate against or directly regulate interstate commerce or the right to carry it on. And in all of these inhibited particulars the statute of Oklahoma offends."

The principle, however, is the same. Whether for the benefit and advantage of its own citizens, the discrimination be an attempt to hold property within the State, or to keep property without the State, it is the unlawful discrimination that constitutes the interference with interstate commerce.

The general principle is stated in the case of *Welton v. Missouri*, 91 U. S. 275, as follows:

> "The license tax exacted by the State of Missouri from dealers in goods which are not the product or the manufacture of the State, before they can be sold from place to place within the State, must be regarded as a tax upon such goods themselves, and the question presented is whether legislation thus discriminating against the products of other States in the conditions of their sale by a certain class of dealers is valid under the Constitution of the United States. * * * The power of the State to exact a license tax of any amount being admitted, no authority would remain in the United States or in this court to control its action, however unreasonable or oppressive. Imposts operating as an absolute exclusion of the goods would be possible, and all the evils of discriminating State legislation, favorable to the interests of one State and injurious to the interests of other States and countries, which existed previous to the adoption of the Constitution, might follow, and the experience of the last fifteen years shows would follow, from the action of some of the States."

The principle is thus stated by Mr. Justice Harlan, in *Guy v. Baltimore*, 100 U. S. 434:

> "It must be regarded as settled that no State can consistently with the Federal Constitution impose upon the products of other States brought therein for sale or use, or upon citizens because engaged in the sale therein or the transportation thereto of the products of other States, more onerous public burdens or taxes than it imposes upon the like products of its own territory. * * * The

concession of such a power to the States would render wholly nugatory the national control of commerce among the States and place the trade and business of the country at the mercy of local regulations having for their object to secure exclusive benefits to the citizens and products of particular States."

In *Walling v. Michigan,* 116 U. S., 446, it was said:

"A discriminating tax imposed by a State operating to the disadvantage to the products of other States when introduced into the first mentioned State is in effect a regulation in restraint of commerce among the States and as such is a usurpation of the power conferred by the Constitution upon the Congress of the United States."

In *Bowman v. Chicago & N. W. R. R. Co.,* 125 U. S., 465, it was said:

"Can it be supposed that by omitting any express declaration on the subject Congress has intended to submit to the several States the decision of the question in each locality of what shall and what shall not be articles of traffic in the interstate commerce of the country? If so, it has left to each State, according to its own caprice and arbitrary will, to discriminate for or against every article grown, produced, manufactured, or sold in any State and sought to be introduced as an article of commerce into any other. * * * It may choose to establish a system directed to the promotion and benefit of its own agriculture, manufactures or arts of any description, and prevent the introduction and sale within its limits of any

or of all articles that it may select as coming into competition with those which it seeks to protect."

In *Scott v. Donald,* 165 U. S. 58, this Court said:

"It is sufficient for the present case to hold, as we do, that when a State recognizes the manufacture, sale and use of intoxicating liquors as lawful, it cannot discriminate against the bringing of such articles in, and importing them from other States; that such legislation is void as a hindrance to interstate commerce and an unjust preference of the products of the enacting State as against similar products of other States."

In the recent cases decided by this Court of *Sioux Remedy Company v. Cope,* 235 U. S. 197, and *Bethlehem Motors Corporation vs. Flynt,* (16 U. S. Advance Reps., 1920-21, p. 687), the foregoing and many other cases are cited with approval and followed, and it is held that such statutes imposing discrimination by a State in favor of its own citizens are void as in conflict with the Commerce Clause of the Federal Constitution.

The general principle of these authorities to be enforced is the same; certainly as strong, if not stronger, when the burdens and regulations imposed upon interstate commerce are applied to property and business going out of the State instead of to property and business coming into the State. So long as these impositions are burdens upon, regulations of, or interference with, interstate commerce, operating as discrimination in favor of its own citizens and against the citizens of other States, they offend against the Commerce Clause of the Federal Constitution, and it is immaterial whether the discrimination sought is accomplished by keeping the property or business inside the State, or preventing it from entering the State.

What the State cannot do, the gas company may not do, even as one of its obligations as a public service company.

Neither the State nor the gas company can so discriminate.

The converse of this proposition, that is, the right of a natural gas company to discriminate against consumers in another State, which it was serving in favor of the consumers in the state in which the gas was being produced, upon plea of primary charter obligation, was denied in *City of Jamestown v. Pennsylvania Gas Co.*, (U. S. Dist. Ct. W. D. N. Y.), 264 Fed., 1009 (1920). An injunction was granted restraining the defendant interstate gas company from withdrawing its service to the complainant city and its inhabitants in the State of New York, notwithstanding the contention that said gas company, a Pennsylvania corporation, owed a primary duty under its charter to render a reasonably adequate service to the cities of Erie, Corry and Warren, in the State of Pennsylvania, in which State the company obtained its natural gas supply.

Attempts have been made by several States, under various pretexts and by various subterfuges, as appears from the cases already cited, to accomplish the same purpose sought by the statute in controversy here, namely, to conserve the use of natural gas produced in a State for the exclusive use of consumers in said State; but without exception this Court and other courts, State and Federal, have held said statutes to be in conflict with the provisions of the Federal Constitution relating to interstate commerce. The draftsmen of the Commerce Clause of the United States Constitution foresaw the very dangers presented by this West Virginia statute.

Alexander Hamilton, in the seventh number of The Federalist, said:

> "The competition of commerce would be another fruitful source of contention. The States less favorably circumstanced, would be desirous of escaping from the disadvantage of local situation, and of sharing in the advantage of their more fortunate neighbors. Each State, or separate confederacy, would pursue a system of commercial polity peculiar to itself. This would occasion distinctions, preferences and exclusion which would beget discontent. * * * The spirit of enterprise, which characterizes the commercial part of America, has left no occasion for displaying itself unimproved. It is not at all probable that this unbridled spirit would pay much respect to those regulations of trade, by which particular States might endeavor to secure exclusive benefits to their own citizens. The infractions of these regulations on one side, the efforts to prevent and repel them on the other, would naturally lead to outrages and these to reprisals and wars."

In the twenty-second paper Alexander Hamilton said:

> "The interfering and unneighborly regulations of some States, contrary to the true spirit of the Union, have, in different instances, given just cause of umbrage and complaint to others, and it is to be feared that examples of this nature if not restrained by a national control, would be multiplied and extended till they become not less serious sources of animosity and discord, than injurious impediments to the intercourse between the different parts of the confederacy."

The ameliorating remedy of the commerce clause of the proposed Constitution is dwelt upon by Madison in the forty-second paper:

> "But the mild voice of reason, pleading the cause of an enlarged and permanent interest, is but too often drowned before public bodies as well as individuals by the clamors of an impatient avidity for immediate and immoderate gain.
>
> The necessity of a superintending authority over the reciprocal trade of confederated states has been illustrated by other examples as well as our own."

It is manifest that as a rule, it is to the interest of the State to encourage its export trade. The peculiar character of the natural gas industry, the fact that its supply is limited, that if its use could be confined to consumers in the State, where it was being produced, it would largely contribute to the wealth, prosperity and industry of that State, has made natural gas the exception, so that burdens and restraints upon its export have been attempted It is therefore comprehensible that a State pursuing its own selfish interest, its vision "cribbed, cabined and confined" by the horizon of its State lines, should fail to see to what misfortunes such action would ultimately tend. To such selfish short-sighted States may be recommended the words of Mr. Justice McKenna, in the Oklahoma case, where he said:

> "And yet we have said that 'in matters of foreign and interstate commerce there are no State lines.' In such commerce, instead of the States, a new power appears and a new welfare, a welfare which transcends that of any State. But rather let

us say it is constituted of the welfare of all the States and that of each State is made the greater by a division of its resources, natural and created, with every other State, and those of every other State with it."

The evidence showing how the operation of the statute in controversy will discriminate in favor of the citizens of West Virginia is collated under the Ninth Heading, pages 184 to 237 of the digest of evidence herewith filed by complainant.

The witnesses have graphically detailed the danger to life, the suffering, the inconvenience and the discomfort that would be occasioned by the operation of this statute, to millions of people in the States of Pennsylvania and Ohio and hundreds of thousands in other States.

This testimony also shows the enormous financial losses that would be suffered by the removal of natural-gas-burning appliances, the installation of appliances for burning other fuel, and, in some localities, the reconstruction of houses which were adapted solely to the use of natural gas.

This evidence shows in detail that while these conditions would obtain in these other States under the operation of the statute, and pursuant to its purpose, during this same period consumers in West Virginia would be subjected to none of these dangers, sufferings, inconveniences, discomforts, and financial losses.

It is hardly conceivable that there could be a better illustration than this case of the effect of State selfishness, the evils sought to be remedied and the good to be accomplished by the Commerce Clause of the United States Constitution, in prohibiting the passage of discriminatory statutes.

VII.

OVER EIGHTY PER CENT. OF THE NATURAL GAS ENTERING THE PIPE LINES OF THE INTERSTATE NATURAL GAS COMPANIES IN WEST VIRGINIA IS STARTED WITH THE DEFINITE INTENTION THAT IT SHALL BE TRANSMITTED IN INTERSTATE COMMERCE, AND AS A FACT IT IS SO TRANSMITTED TO PENNSYLVANIA, OHIO, AND OTHER STATES, WHEREFORE:

(a) THE STATUTE CANNOT BE SUSTAINED BECAUSE IT PURPORTS TO ENFORCE DUTIES IMPOSED BY LAW UPON PUBLIC SERVICE GAS COMPANIES IN WEST VIRGINIA, OR ANY COMMON-LAW DUTY OF PUBLIC UTILITIES.

(b) THE STATUTE CANNOT BE SUSTAINED BECAUSE THE SPECIFIC QUANTITY, OR THE EXACT DESTINATION, OR THE PARTICULAR CONSIGNEE, ARE UNKNOWN AT THE INCEPTION OF SAID TRANSPORTATION, OR BECAUSE IN SOME INSTANCES THE GAS IS TRANSPORTED BY THE PRODUCER OR OWNER FOR HIS OWN USE, OR FOR DISTRIBUTION, OR SALE, TO LOCAL CONSUMERS OR DISTRIBUTING COMPANIES, OR BECAUSE THERE IS A TRANSFER OF TITLE THERETO IN TRANSIT, OR BECAUSE OF ANY LOCAL NECESSITY, PUBLIC SENTIMENT OR EXPEDIENCY, TO RETAIN SAID GAS FOR USE BY THE CITIZENS OF WEST VIRGINIA.

(c) THE STATUTE CANNOT BE SUSTAINED BECAUSE OF ANY ALLEGED POLICE POWER.

(d) THE STATUTE CANNOT BE SUSTAINED BECAUSE OF ANY ALLEGED CORPORATE FRANCHISE REGULATION BY THE STATE OF WEST VIRGINIA, EITHER AS TO DOMESTIC OR FOREIGN CORPORATIONS ENGAGED IN INTERSTATE COMMERCE.

(e) THE STATUTE CANNOT BE SUSTAINED BECAUSE SAID STATUTE APPLIES EQUALLY TO DOMESTIC AND NON-RESIDENT PERSONS AND TO INTRASTATE AND INTERSTATE COMMERCE, OR THE INTERBLENDING OF INTRASTATE AND INTERSTATE COMMERCE.

(f) THE STATUTE CANNOT BE SUSTAINED BECAUSE SEVERAL OF THESE COMPANIES ALSO DO SOME LOCAL BUSINESS, BY DISTRIBUTING NATURAL GAS AT CERTAIN POINTS FROM THEIR PIPE LINE SYSTEMS TO LOCAL COMMUNITIES.

(g) THE STATUTE CANNOT BE SUSTAINED BECAUSE THOSE INTERSTATE GAS COMPANIES, IF THERE ARE ANY, WHICH ARE NOT PUBLIC SERVICE COMPANIES UNDER THE LAWS OF WEST VIRGINIA WOULD NOT BE AFFECTED.

These respective positions of the State of West Virginia, because they are either directly raised by its Answer, or indirectly by its evidence, will be taken up separately. In an exuberance of caution every possible contention has been anticipated, although it may come to pass that only a portion of these contentions will be argued by West Virginia.

VII. (a) THE STATUTE CANNOT BE SUSTAINED BECAUSE IT PURPORTS TO ENFORCE DUTIES IMPOSED BY LAW UPON PUBLIC SERVICE GAS COMPANIES IN WEST VIRGINIA, OR ANY COMMON-LAW DUTY OF PUBLIC UTILITIES.

The West Virginia statute, while purporting to enforce a common-law duty of the public utility, in reality adds new and unusual burdens unknown to the common law.

It should be noted that the public utility which has professed and undertaken to serve a certain, definite community with natural gas, is by this Act compelled to serve an indefinite number of communities, anywhere "within the territory of this State," temporarily, at least, and perhaps permanently. In other words, this new and unusual obligation is not limited to communities contiguous to the territory which the public utility proprietor has assumed to supply, but to the extent that his volume of gas is derived from State sources he must furnish it "for public use within the territory of this State, and for the use of the public and every part of the public within the territory of

this State, in or from which such gas is produced, or through which said gas is transported, or which is served by such person."

It is difficult to understand why the draughtsman of the Act having first covered "for public use within the territory of this State," should have added the less comprehensive phrase "for the use of the public and every part of the public within the territory of this State in or from which such gas is produced or through which said gas is transported or which is served by such person." Even if the first phrase is limited by the second, the same argument applies.

The extension of the obligations of public service companies attempted by the statute may be explained by the contention on which the State in its Answer squarely plants itself, namely, that the gas produced in West Virginia is so affected with the use and interest of the public, that until that public has received an adequate supply the gas reduced to possession and introduced into their pipe lines by the gas companies cannot become the subject of interstate commerce because that use or interest is superior and prior to the right of introduction of such gas into interstate commerce. (See Answer Paragraph XV, p. 38). But as we have seen, this Court, in the cases already referred to, has decided that there is no such right of conservation in the State, but that natural gas is the subject of interstate commerce like any other commodity.

The common law does not require the public service proprietor to serve the public everywhere, but only that public, or part of the public, which reasonably comes within the scope of the service which he has professed or undertaken to render.

Wyman Public Service Corporations, Section 344.

"One who undertakes public employment has, in effect, thereby exposed and vested an interest of himself in all the King's subjects that will employ him in the way of his trade. But the duty thus defined is not to all men but to a certain public limited in various ways according to the usual profession (or nature of the undertaking). Thus a gas company owes its duty only to those who occupy premises within the territory covered by the service. And an innkeeper does not owe his duty to all who apply to him, but only to travelers. These two examples show that the duty itself has its limitations."

The innkeeper case referred to by the learned author is *Cayle's Case*, 8 Coke 32 (1584) in which that great common law jurist distinguished between the members of the public to which the service was owed, holds that it was to travelers and wayfarers, not to neighbors.

Public Service Corporation v. American Lighting Co., 67 N. J. Eq. 122, 57 Atl. 482 (1904), is the gas case mentioned in the text quoted.

There a company that controlled a new and improved type of gas-burner demanded from the local gas company a supply of gas at the top of every lamp-post in the city so that it might fulfill its contract to supply the city with light. In denying its right to demand said service, or the duty of the local company to furnish it, Mr. Vice Chancellor Pitney, said, (p. 127, 128):

> "I am entirely of the opinion that the defendant the lighting company has no standing whatever, in its own right, to demand from the complainants a supply of gas. For the simple reason,

above stated, that it is neither a householder nor a resident of Jersey City, and the obligation which is imposed upon complainants, by reason of their enjoyment of a public franchise of laying mains in the streets, to furnish gas, extends only to residential citizens of the city and to the municipality. It is quite absurd to say that any person who might happen to be walking along the street, and yet be destitute of any local habitation within the corporate limits of Jersey City, has the least right to demand a supply of gas from the complainants."

In *People ex rel. Pennsylvania Gas Co. v. Public Service Commission,* 196 N. Y. App. Div. 514; 189 N. Y. S. 478 (1921), it was held that the Commission could not compel the relator, a foreign interstate natural gas corporation, to make connections and extend its service to new consumers in a city which the company was serving under a franchise, irrespective of the fact that said new applicants lived on streets through which the mains were laid, where it was proven that the supply of gas was inadequate to serve existing consumers, and was constantly diminishing, and the taking on of additional consumers would destroy the service it was then trying to maintain, and subject its consumers to great hazard of destruction of life and property.

Wyman, Public Service Corporations, Section 273.

"Thus, a gas company may not be called upon to serve beyond the municipality for which it has been chartered."

See also Section 274 Territorial limits fixed by franchise.

The law of "Reasonably Adequate Supply" as applied to public service companies, and as applied to a natural gas company, would only justify the courts to enforce the common-law obligation of furnishing "a reasonably adequate supply" of gas to the specific community or communities which the public service company has professed or undertaken to serve, under the terms of its charter or of its local franchise, or within the reasonable ambit of its actual service, and not more.

Mr. Justice Hughes summed up the common law situation in *Northern Pacific Ry. Co. v. North Dakota*, 236 U. S. 585 (1915), when he said: (p. 595).

> "But, broad as is the power of regulation, the State does not enjoy the freedom of an owner. The fact that property is devoted to a public use on certain terms does not justify the requirement that it shall be devoted to other public purposes, or to the same use on other terms, or the imposition of restrictions that are not reasonably concerned with the proper conduct of the business according to the undertaking which the carrier has expressly or impliedly assumed.
>
> If it has held itself out as a carrier of passengers only, it cannot be compelled to carry freight. As a carrier for hire it cannot be required to carry persons or goods gratuitously."

This Court had long before recognized the common-law principle to be that a common-carrier by railroad could not be compelled to serve beyond his line, that is beyond the service which he had professed or undertaken to furnish to the public, in *Atchison, T. & S. R. Co. v. Denver & New Orleans R. Co.*, 110 U. S. 677 (1884). In the course of the opinion, Chief Justice Waite declared (p. 680):

> "At common law, a carrier is not bound to carry except on his own line, and we think it quite clear that if he contracts to go beyond he may, in the absence of statutory regulations to the contrary, determine for himself what agencies he will employ."

Nor can a railroad company be required to deliver cars at the terminus of another railroad to which they are consigned at destination, even though there is a physical connection between the terminal of the two roads. *Central Stock Yards Co. v. Louisville & N. R. Co.*, 192 U. S. 568 (1904).

Similar decisions have been reached by the State courts. For instance, *Hoyt v. Chicago, B., & Q. R. Co.*, 93 Ill. 601 (1879) holding that a railroad company could not be compelled to deliver grain to a warehouse off its line; *The Pittsburgh, Cinn. & St. Louis Ry. Co. v. Morton*, 61 Ind. 539 (1878), that a railroad company owed no duty as to reasonable facilities beyond its own route; and *Pittsburgh, etc., Ry. Co. v. Viers*, 115 Ky., 526 (1902), to the effect that a railroad company's common law liability extended only to the end of its own line.

The common-law principles laid down by Mr. Justice Hughes in *Northern Pacific Ry Co. v. North Dakota*, 236 U. S. 585 (1915) *supra*, were applied to a water-supply service by the Supreme Court of Idaho in *Murray v. Public Utilities Commission*, 27 Ida. 603; 150 Pac. 47 (1915).

The Court said (p. 623):

> "In order to justify the Commission in ordering enlargements, the Commission should be satisfied from the evidence: First, that the existing

plant is not reasonably sufficient to render adequate service (*Washington ex rel O. R. & N. Co. v. Fairchild,* 224 U. S. 510; Second, that the extension or enlargement is within the scope of the original professed undertaking of the proprietor of the utility (*N. P. R. Co. v. N. Dak.,* 236 U. S. 585)."

A strong case in point is *Fidelity Title & Trust Co. v Kansas Natural Gas Co.,* 219 Fed. 614 (1913), in which it was held that the order of the Public Utilities Commission of Kansas requiring the receiver of the defendant gas company to go into Oklahoma and extend its pipe line system in that State to new and distant fields, was unconstitutional.

Mr. Justice Holmes, delivering the opinion in *Interstate Commerce Commission v. Delaware L. & W. R. Co.,* 216 U. S. 531 (1910), thus referred to the provision of Section 1 of the Interstate Commerce Act, as amended in 1906, requiring main line railroads to provide on application connections with branch lines, (p. 537):

"The statute creates a new right not existing outside of it. *Wisconsin, Minnesota & Pacific R. Co. v. Jacobson,* 179 U. S. 287, 296."

R. R. Co. vs. Jacobson, above cited, involved the validity of a State statute requiring intersecting railroads to provide physical connections and interchange of traffic.

Mr. Justice Peckham said, (p. 296):

"At common law the courts would be without power to make such an order as was made in this case by the State court. Legislative authority would be necessary in order to give power to the courts to render a judgment of this kind."

Here the State of West Virginia has attempted to impose a new duty, unknown at common law, and in actual operation a regulation of the public service obligation owed equally to Pennsylvania, Ohio and other States as well as to West Virginia.

It falls within the words employed by Mr. Justice Holmes in *Western Union Telegraph Co. v. Foster*, 247 U. S. 105 (1917):

> "If the transmission of the quotations is interstate commerce the order in question cannot be sustained. It is not like the requirement of some incidental convenience that can be afforded without seriously impeding the interstate work. It is an attempt to affect in its very vitals the character of a business generically withdrawn from State control—to change the criteria by which customers are to be determined and so to change the business. It is suggested that the State gets the power from its power over streets which it is necessary for the telegraph to cross. But if we assume that the plaintiffs in error under their present charters could be excluded from the streets, the consequence would not follow. Acts generally lawful would become unlawful when done to accomplish an unlawful end. *United States v. Reading Co.*, 226 U. S. 324, 357, and a constitutional power cannot be used by way of condition to attain an unconstitutional result. *Western Union Telegraph Co. v. Kansas*, 216 U. S. 56; *Sioux Remedy Co. v. Cope*, 235 U. S. 197, 203. The regulation in question is quite as great an interference as a tax of the kind that repeated decisions have held void. It cannot be justified 'under that somewhat ambiguous term of police powers.' *Western Union Telegraph Co. v.*

Pendleton, 122 U. S. 347, 359; *Leisy v. Hardin,* 135 U. S. 100; *Savage v. Jones,* 225 U. S. 501, 520; *Western Union Telegraph Co. v. Brown,* 234 U. S. 542, 547."

It should be further noted that by furnishing natural gas to landowners or others along the route of their pipe-lines in accordance with the provisions of gas-well leases, gas acreage leases, and the like, these public utility proprietors have not professed, or undertaken, to serve the general public occupying the territory in which their supply of gas is produced or through which their pipe-line systems pass, nor by the law of West Virginia is such service held to be a public service. *Pittsburgh & W. Va. Gas Co. v. Nicholson,* 105 S. E. 784 (1921), not yet reported in the West Virginia Supreme Court Reports.

The foregoing argument is intended to show:

(a) That there are no duties imposed by law on public service gas companies, prior to the passage of this Act, which would authorize the State in demanding that these public service companies supply gas to citizens of all classes throughout the State, and

(b) that to the common-law duty of public utilities the statute in controversy adds new and unusual burdens, unknown to the common-law.

In the Ninth Paragraph of its Answer in this case, it is contended by the State of West Virginia that while this gas is or may be an article of interstate commerce, and admittedly when so, not subject to State control, nevertheless, the State, while this gas is in the pipe lines in West Virginia, may subject such gas to the

public service in West Virginia without thereby interfering with interstate commerce or placing a burden thereon, because as stated in the Fifteenth Paragraph of the Answer, the use and interest of the public of West Virginia in said gas is superior and prior to any introduction thereof into interstate commerce.

Under the Commerce Clause of the Federal Constitution the proposition should be stated exactly the converse to that claimed by the State of West Virginia. It should be stated: While goods are in transit in interstate commerce they connot be subject to the public service in West Virginia, nor to the duties imposed by law upon public service companies, if those duties or obligations in any manner interfere with the transmission of such articles in interstate commerce.

The contention of the State of West Virginia disregards certain well-settled principles of law as follows:

FIRST: Gas placed in mains or pipes by public service gas companies, while in course of transmission from points in West Virginia to points in other States, is in interstate commerce, and the companies so transmitting this gas were not obligated to observe and perform any duties imposed by law in West Virginia upon public service companies, when and if such duties, so imposed, directly burden, interfere with or prohibit such transportation in interstate commerce.

SECOND: Commodities in transit in interstate commerce by public service transportation companies are subject to the paramount public service of the nation, provided for by the Constitution of the United States, and whenever such rights, duties and obligations of and to the nation under the commerce clause

of its constitution conflict with the rights, duties or obligations which the State seeks to impose, then the latter are without force and effect, but utterly void.

VII. (b) THE STATUTE CANNOT BE SUSTAINED BECAUSE THE SPECIFIC QUANTITY, OR THE EXACT DESTINATION, OR THE PARTICULAR CONSIGNEE, ARE UNKNOWN AT THE INCEPTION OF SAID TRANSPORTATION, OR BECAUSE IN SOME INSTANCES THE GAS IS TRANSPORTED BY THE PRODUCER OR OWNER FOR HIS OWN USE OR FOR DISTRIBUTION OR SALE TO LOCAL CONSUMERS OR DISTRIBUTING COMPANIES, OR BECAUSE THERE IS A TRANSFER OF TITLE THERETO IN TRANSIT, OR BECAUSE OF ANY LOCAL NECESSITY, PUBLIC SENTIMENT OR EXPEDIENCY TO RETAIN SAID GAS FOR USE BY THE CITIZENS OF WEST VIRGINIA.

Where, as the evidence in this case establishes, upwards of eighty per cent. of the natural gas entering the pipe lines of the great interstate natural gas companies in the producing areas of West Virginia, is started from the originating points with the definite intention that it shall be directly and continuously transmitted or transported in interstate commerce, and as a business fact it is so transmitted or transported to the consuming markets of Pennsylvania, Ohio and other States, in a normal, established and recurring course of commerce and in fulfillment of contracts previously entered into therefor, and this has been the fact and the course of bus-

iness many years, the interstate character of such transmission or transportation is not affected by the fact that the specific quantity, or the exact destination, or the particular consignee, beyond the limits of the originating State, are unknown at the inception of said transmission or transportation.

The natural gas cases exemplify this fundamental principle, that it is the real and essential nature of the transmission or transportation and not the accidents of a definite consignee or destination in another State, or the designation of any specific portion of the commodity, or the quantity thereof to be delivered to a particular person or place outside the State, that gives interstate or foreign character to such commerce. See *Oklahoma v. Kansas Natural Gas Co., supra; Kansas Natural Gas Co. v. Haskell, supra; Haskell v. Cowham, supra; and Haskell v. Kansas Natural Gas Co., supra.*

In *Landon v. Public Utilities Commission of Kansas*, 242 Fed. 658 (1917), the Court, Booth, D. J., decided these questions on the authority of this Court:

> "Absence of a specific consignee at the time of shipment does not alter the character of the shipment. *Swift & Co. v. U. S.*, 196 U. S. 375, 25 Sup.Ct. 276, 49 L. Ed. 518; *T. & New Orleans R. Co. v. Sabine Co.*, 227 U. S. 111, 33 Sup. Ct. 229, 57 L. Ed. 442; *Grand Union Tea Co. v. Evans (D. C.)* 216 Fed. 791.
>
> The exact destination need not be fixed at the time of the shipment, provided the intent and purpose is to continue the journey beyond the limits of the State in which the journey begins. *Ohio R.*

R. Co. v. Worthington, 225 U. S. 101, 32 Sup. Ct. 653, 56 L. Ed. 1004; *T & N. O. Co. v. Sabine Co.*, 227 U. S. 111, 33 Sup. Ct. 229, 57 L. Ed. 442.

Reverting to the character of the business transacted by the receiver, it is to be noted: (a) That the shipment is started on its journey from one state to another, (b) with the purpose that it shall be delivered to a consumer. (c) That it moves continuously from a point of shipment in one state to the consumer in another state. (d) That it is moved part of the way in the pipe lines of the receiver, and part of the way in the pipe lines of the distributing company, whether as agent of the receiver or connecting carrier is immaterial. (e) The destination of the shipment is intended at the time of the shipment to be beyond the state, although the name of the particular consumer for any specific portion of the gas shipped is not known. (f) There is no stoppage in transportation. (g) The title to the gas remains in the receiver until delivery to the ultimate consumer."

The above quoted case, when it came before this Court in *Public Utilities Commission v. Landon*, 249 U. S. 236 (1919), *supra*, was reversed on the sole ground that the court below held that the natural gas transmitted from Oklahoma to Kansas continued to be in interstate commerce *after delivery to the local distributing companies*, and that its interstate character ceased when it passed into the local mains of the local distributing companies.

See also:

Terminal Co. v. Interstate Commerce Com., 219 U. S. 498.

***Railroad Commission of Louisiana v. Texas & Pacific Ry. Co.*, 229 U. S. 336 (1913).**

R. R. Comm. vs Texas, & Pac. Ry. Co. 229 U. S. 336, furnishes authority establishing that the natural gas started on its way from the producing fields of West Virginia even in those cases when intended for delivery in West Virginia to other persons or companies, with the purpose and intention that it is to be exported by them, in conformance with the long-existing, normal and constantly recurring course of commerce in that commodity to the consuming centers of Pennsylvania, Ohio and other States, constitutes interstate commerce within the protection of the Federal Constitution, although during the transit to the point of delivery the exact consignee and destination beyond the State, or the quantity to go to any particular person or place, are indefinite and unknown.

As pointed out by Mr. Justice McReynolds in *Illinois Central Railroad Co. v. Louisiana Railroad Commission*, 236 U. S. 157, 163, (1915):

> "When freight actually starts in the course of transportation from one State to another it becomes a part of interstate commerce. The essential nature of the movement and not the form of the bill of lading determines the character of the commerce involved. And generally when this interstate character has been acquired it continues at least until the load reaches the point where the parties originally intended that the movement should finally end." (Citing cases.)

See also:

Penna. R. R. v. Clark Coal Co., 238 U. S., 456.

The fact that the gas is transported by the producer or owner to other States for his own use or to be there distributed to local consumers or sold to local distributing companies does not change the interstate character of the transaction.

In *Pennsylvania Gas Co. v. Public Service Commission of New York*, 252 U. S. 23 (1920), this Court said, By Mr. Justice Day (p. 28):

> "In the instant case the gas is transmitted directly from the source of supply in Pennsylvania to the consumers in the cities and towns of New York and Pennsylvania, above mentioned. Its transmission is direct and without intervention of any sort between the seller and the buyer. The transmission is continuous and single and is, in our opinion, a transmission in interstate commerce and therefore subject to applicable constitutional limitations which govern the States in dealing with matter of the character of the one now before us."

In another recent case *Public Utilities Commission of Kansas v. Landon, Receiver, etc.*, 249 U. S. 236 (1919), this court expressly recognized that the transmission or transportation of natural gas up to the mains of the local companies was interstate commerce in these words, McReynolds, J., (p. 245):

> "That the transportation of gas through pipe lines from one state to another is interstate commerce may not be doubted. Also, it is clear that as part of such commerce the receivers might sell and deliver gas so transported to local distributing companies free from unreasonable interference by the State."

In fact in every natural gas case that has come before this Court the gas was owned by the natural gas company that also did the transportation; the transportation was only an incident in the sale of the gas by the company to the consumer or to local distributing companies in other States.

The fact that there is in some instances a transfer of title in transit does not affect the interstate character of the transaction.

Swift & Co. v. United States, 196 U. S. 375 (1905).

The point was directly before the Court in *Gulf, Colorado & Sante Fe Ry. Co .v. Texas,* 204 U. S. 403 (1907).

Mr. Justice Brewer said, (p. 412):

> "It is undoubtedly true that the character of a shipment, whether local or interstate, is not changed by a transfer of title during the transportation.
>
> * * * * * * *
>
> The control over goods in process of transportation, which may be repeatedly changed by sales, is one thing; the transportation is another thing, and follows the contract of shipment, until that is changed by the agreement of owner and carrier."

If considerations of local necessity, public sentiment or expediency, were allowed to control, and the States by their legislatures to interpret this local necessity, public sentiment, or expediency, the Commerce Clause of the Constitution of the United States might as well have been traced in sand.

As has already been shown by citations from the Federalist, the draftsmen of the Constitution sought to guard the interest of the nation as a whole against the States' conception of their own necessities and expediency.

In the leading case of *Oklahoma v. Kansas Natural Gas Co., supra,* Mr. Justice McKenna considered at length and expressly denied the supremacy of this alleged paramount right of the State of self-help, on account of local necessity or expediency; although in that case, as stated in the opinion of this Court, the State of Oklahoma drew a graphic picture of natural gas as a local necessity, and concluded this picture with the words:

> " * * * and that, substantially, the only natural, practical, usable fuel, both for domestic and industrial use, is natural gas."

An unusually stroong situation of State necessity was presented in *Kansas City Southern Ry. Co. v. Kaw Valley Drainage District,* 233 U. S. 75 (1914). There the Supreme Court of Kansas having ordered the defendant railroad to remove certain railroad bridges, which formed "a necessary part of lines of commerce by rail among the States," on the ground that said bridges were obstructing the flow of the rivers spanned by them and causing destructive floods, this Court reversed said decree as a direct interference with the freedom of interstate commerce and in violation of the exclusive control thereover conferred upon Congress by the Federal Constitution, the destructive floods to the contrary notwithstanding.

In the case of *United Fuel Gas Company vs. Walter S. Hallinan, State Tax Commissioner,* No. 835 Oc-

tober Term, 1920, (writ of error and petition for writ of certiorari to the Supreme Court of West Virginia), argued before this Court last month and not yet decided, the questions submitted directly related to some of the foregoing propositions. In that case this Court was asked to review a decision of the Supreme Court of Appeals of West Virginia construing the West Virginia Privilege Tax Act, and to decide how far if at all the interstate character of the transportation of natural gas would be affected by the fact that the transmission is accomplished by delivery in West Virginia to connecting lines, and that a small portion of the gas so delivered is resold in West Virginia to consumers along such connecting lines; the West Virginia Court having held that such gas was not in interstate commerce, but that where gas was delivered to connecting companies which sold no part thereof to consumers in West Virginia, that gas was in interstate commerce.

Accordingly the Supreme Court of Appeals of West Virginia as will be observed, in its opinion and decision held that a part of the gas so in transit was in intrastate and another part in interstate commerce.

The statute in controversy here in this case now before this Court ignores the fact that any portion of this gas may be in interstate commerce. The statute compels every gas company in the State to deliver all of the gas in its lines when necessary to supply West Virginia consumers, without regard to whether or not any portion of said gas is in transit in interstate commerce. This statute authorizes the taking of even that

portion of the gas which the Supreme Court of Appeals of West Virginia has held was gas in transit in interstate commerce.

VII. (c) THE STATUTE CANNOT BE SUSTAINED BECAUSE OF ANY ALLEGED POLICE POWER.

This so-called "Adequate Gas Supply" statute of West Virginia cannot be supported as a legitimate and authorized exercise of the State's police power, either for the protection of the interests of its citizens, or for the conservation of a natural resource.

> "No urgency for its use [police power], can authorize a State to exercise it in regard to a subject-matter which has been confided exclusively to the discretion of Congress by the United States Constitution."
>
> *Henderson v. Mayor of New York,* 92 U. S. 259.

> "The decisions also show that a State cannot avoid the operation of this rule by simply invoking the convenient apologetics of the police power. It repeatedly has been said or implied that a direct interference with commerce among the States could not be justified in this way."
>
> *Kansas City Southern Ry. Co. v. Kaw Valley Drainage District,* 233 U. S. 75.

The long established principle that the exercise by a State of its reserved police and other powers must not conflict with the exclusive power over interstate commerce conferred upon Congress by the United States

Constitution, has been recognized and applied by this Court to attempted regulation by States of the transmission or transportation of natural gas into other States.

Oklahoma v. Kansas Natural Gas Co., supra, turned on this very point.

There the state statute was stoutly defended as an enactment for the conservation of that natural resource, and as a *bona fide,* legitimate and constitutional exercise of the State's reserved police power, affecting interstate commerce but indirectly and incidentally.

Mr. Justice McKenna, delivering the opinion of the Court, painstakingly examined these claims.

Page 249:

> "The provisions of the act, it is further insisted, are but an exercise of the police power to conserve the natural resources of the state. * * * And such exercise of power, it is contended, does not regulate interstate commerce, but only affects it indirectly."

Page 250:

> "The appellant makes a broader contention. The right to conserve, or rather the right to reserve, the resources of the state for the use of the inhabitants of the state, present and future, is broadly asserted. 'The ruling principle of the law,' counsel say, 'is conservation, not commerce.' * * * We are, therefore, admonished at the very start in the discussion of the importance of the questions presented and the power which the states may exert against one another."

These claims were disallowed.

In refusing to modify the decree in the above case, this Court, in *Haskell v. Kansas Natural Gas Co., supra,* carefully reviewed and reaffirmed that decision.

Other gas cases in point are the following:

Haskell v. Cowham, 187 Fed., 403 (1911).

State ex rel. Corwin v. The Indiana & Ohio Oil, Gas & Mining Co., 120 Ind., 576 (1889) *supra.*

In the latter case the Court said:

> "But it is evident that that act under examination cannot under the rule laid down by the court of last resort (U. S. Supreme Court) be deemed a legitimate exercise of the police power. * * * The act cannot be taken out of the operation of the federal decisions upon the theory that it is a valid exercise of the police power resident in every sovereign state, for the theory is without foundation."

Over a decade later, in *Manufacturers Gas etc. Co. v. Indiana Natural Gas Co.,* 155 Ind., 545 (1920), the same court, in reviewing and reaffirming its decision, pointed out, Dowling, C. J. (page 546):

> "Nothing done by the appellee is complained of, excepting only that it removes natural gas out of the State of Indiana. No ground for the exercise of the police power of the state to prevent such removal is shown."

The New Jersey Court of Chancery in *Benedict et al v. Columbus Construction Co.,* 49 N. J. Eq. 23; 23 Atl., 485 (1892), when called upon in a stockholders' suit to determine the constitutionality of the Indiana Act of

March 4, 1891, prohibiting the use of any artificial means of accelerating the natural flow of the gas, by Chancellor McGill said, (page 37):

> "It requires but a simple mathematical calculation to ascertain that the effect of this law is to limit the transportation of gas to a radius of about 60 miles from the gas wells, and to restrict it within the territorial limits of the State of Indiana. * * As a police regulation, this provision of the law, upon its face, appears to be an absurdity. * * *"

Whenever a State seeks some pretext for interfering with, burdening, regulating or prohibiting interstate commerce, it almost invariably invokes "the convenient apologetics of the police power."

This Court has accordingly been required again and again to pass upon the question of how far the reserved police powers of the respective States authorize legislation by the States affecting interstate commerce. In all those cases, this Court, without attempting to fix the exact limits or the precise definition of the words "police power," has declared that "whatever may be the nature and extent of that power where not otherwise restricted, no definition of it and no urgency of its use can authorize a State to exercise it in regard to subject matter which has been confided exclusively to the discretion of Congress by the Constitution."

> *Henderson vs. Mayor of New York,* 92 U. S. 259.

In case after case, where State after State has sought to sustain statutes affecting interstate commerce, upon the alleged reservation of its police powers, when it was made to appear that in fact the legislation of

the State directly sought to burden, interfere with, regulated, and especially if it prohibited or prevented, commerce between the States or with foreign countries, such legislation has been declared unconstitutional.

In *Railroad Co. vs. Husen,* 95 U. S. 465, this court said (page 470):

> "We admit that the deposit in Congress of the power to regulate foreign commerce and commerce among the States was not a surrender of that which may properly be denominated police power. What that power is it is difficult to define with sharp precision. It is generally said to extend to making regulations promotive of domestic order, morals, health, and safety. * * * But whatever may be the nature and reach of the police power of the State, it cannot be exercised over a subject confided exclusively to Congress by the Federal constitution. It cannot invade the domain of the national government. It was said in *Henderson et al. v. Mayor of City of New York, et al.* (*supra*), to be clear, 'from the nature of our complex form of government, that whenever the statute of a state invades the domain of legislation which belongs exclusively to the Congress of the United States, it is void, no matter under what class of powers it may fall, or how closely allied it may be to powers conceded to belong to the states.' Substantially the same thing was said by Chief Justice Marshall in *Gibbons v. Ogden,* 9 Wheat, 1."

To the same effect among other cases in this Court are the following:

New Orleans Gas Co. v. Louisiana Light Co., 115 U. S., 650. (1885).

Walling vs. Michigan, 116 U. S., 446.
W. U. Telegraph Co. vs. Pendleton, 122 U. S. 347.
Bowman vs. Ry. Co., 125 U. S. 465.
Leisy vs. Hardin, 135 U. S. 100.
Minnesota vs. Barber, 136 U. S. 313.
Crutcher vs. Kentucky, 141 U. S. 47.
Brennan vs. Titusville, 153 U. S. 289.
W. U. Tel. Co. vs. Kansas, 216 U. S. 1.
R. R. Co. vs. Brewing Co., 223 U. S. 70.
Savage vs. Jones, 225 U. S. 501.
Crenshaw vs. Arkansas, 227 U. S. 389.

This statute, however, was not passed by the State of West Virginia under any alleged reserved police power. The State may ultimately invoke the "convenient apologetics" of this power, but its Answer sets forth that the powers sought by said statute are enforceable because of some peculiar right of use and interest of the public of West Virginia in the gas produced in that State which is superior and prior to any right to introduce the same in interstate commerce.

VII. (d) THE STATUTE CANNOT BE SUSTAINED BECAUSE OF ANY ALLEGED CORPORATE FRANCHISE REGULATION BY THE STATE OF WEST VIRGINIA, EITHER AS TO DOMESTIC, OR FOREIGN CORPORATIONS, ENGAGED IN INTERSTATE COMMERCE.

This West Virginia statute, regulating the transmission and supply of natural gas, cannot be supported as a corporate franchise regulation, either as to domestic corporations engaged in interstate commerce therein, nor as to foreign corporations there engaged in inter-

state business. The power of the State over said corporations, by the Commerce Clause of the Federal Constitution, is atrophied. It cannot be exercised so as to burden, interfere with, regulate, prevent or prohibit the interstate business of said corporations. A constitutional power over intrastate corporations may not be exercised to obtain an unconstitutional result, the control of interstate business.

The power of a State, under any alleged corporate franchise regulation, to regulate the doing of local business is not unrestricted or absolute. This power must be exercised subject to the limitations of the United States Constitution. The exertion of that power over either a domestic or a foreign corporation, engaged within the State in both local and interstate business, in such a way as to directly or by its necessary operation burden the interstate commerce of said corporation, is unconstitutional.

The franchise or other powers of a State over its domestic corporations may not be so exerted as to prohibit those corporations from exercising their right under the Federal Constitution to lawfully engage in interstate commerce, or to directly hinder, burden or interfere with their exercise of that right, or to discriminate against those domestic corporations engaged within the State in such commerce.

Oklahoma v. Kansas Natural Gas Co., supra.
Haskell v. Kansas Natural Gas Co., supra.
Haskell v. Cowham, supra.

Illuminating cases recently decided by this court, where States have sought to control or regulate interstate commerce by statutes specifying the terms or conditions upon which corporations could transact busi-

ness within such States, providing corporate franchise regulations and the like, are the following:

Western Union v. Kansas, 216 U. S. 1.
The Minnesota Rate Cases, 230 U. S. 352.
Sioux Remedy Co. v. Cope, 235 U. S. 197.
International Paper Co. v. Massachusetts, 246 U. S. 135.

Because the corporations producing gas in West Virginia and transmitting the same through pipe lines are public service corporations, the State of West Virginia in its Answer claims the right, as a corporate franchise regulation, to compel these companies to first furnish an adequate supply of gas to consumers in West Virginia, and to make up the deficit of any other public service gas company in West Virginia that has a deficit in supplying its consumers.

Whatever may be the powers of the State of West Virginia over the corporations doing an exclusively intrastate business, the power of the State over corporations engaged in interstate business is limited by the Commerce Clause of the Federal Constitution, and any power which the State of West Virginia might otherwise possess and have the right to exercise, cannot be exerted upon this interstate commerce if it will have the effect of burdening, interfering with or regulating such interstate commerce.

It has already been argued, and the evidence demonstrates, that the effect of the operation of the statute will be not only to burden, interfere with, and regulate, but to absolutely prohibit and prevent, the export of gas from the State of West Virginia.

VII. (e) THE STATUTE CANNOT BE SUSTAINED BECAUSE IT APPLIES EQUALLY TO BOTH DOMESTIC AND NON-RESIDENT PERSONS AND TO INTRASTATE AS WELL AS INTERSTATE COMMERCE, AND THE INTERBLENDING OF INTRASTATE AND INTERSTATE COMMERCE.

The West Virginia statute in controversy can derive no constitutional justification on the ground that it applies equally to domestic and non-resident persons engaged in furnishing g to or for use of the public in West Virginia, nor as bjecting intrastate and interstate commerce within the limits of the State to the same regulations.

The Oklahoma statute in *Oklahoma v. Kansas Natural Gas Co., supra,* expressly forbade domestic corporations from transmitting or transporting natural gas out of the State, or disposing of said gas for such exportation, and also prohibited and prevented the transmission or transportation of natural gas from the State by foreign corporations.

In *Haskell v. Cowham, supra,* the statute of Oklahoma of 1907 was held unconstitutional, as it only permitted pipe lines to be laid on or across State highways by domestic corporations which were forbidden to transmit natural gas from the State, or to sell it for transmission, on pain of forfeiture of their charters.

The statute prohibiting the transportation of natural gas from the State, condemned in *State ex rel. Corwin v. Indiana & Ohio Oil, Gas & Mining Co., supra,* applied to domestic as well as foreign persons transmitting or transporting natural gas out of the State.

In the *State Freight Tax Case,* 15 Wall. (82 U. S.), 232 (1872), *supra,* Mr. Justice Strong thus answered the contention that a State might constitutionally subject interstate commerce to the same regulation as imposed on domestic commerce in the absence of action by Congress (page 276):

> "Nor is it at all material that the tax is levied upon all freight as well that which is wholly internal as that embarked in interstate trade. • • • The state may tax its internal commerce, but if an act to tax interstate commerce is unconstitutional, it is not cured by including within its provisions subjects within the domain of the state. Nor is a rule prescribed for carriage of goods through, out of or into a state any the less regulation of transportation because the same rule may be applied to carriage which is wholly internal."

This passage is quoted and applied by Mr. Justice Bradley, in *Philadelphia Steamship Co. v. Pennsylvania,* 122 U. S. 326 (1887), *supra.*

In a previous case in the same year, *Robbins v. Shelby Taxing District,* 120 U. S. 489, (1887), the same principle was stated.

See also *Wabash, etc. Ry. Co. v. Illinois,* 118 U. S. 557 (1886), *supra.*

Minnesota v. Barber, 136 U. S. 313 (1890), *supra.*

Galveston, Harrisburg, etc. Ry. Co. v. Texas, 210 U. S. 217.

Ohio Railroad Commission v. Worthington, 225 U. S. 101 (1912).

Texas & N. O. R. R. Co. v. Sabine Tram Co., 227 U. S. 111 (1913).

Railroad Commission of Louisiana v. Texas & Pacific Ry. Co., 229 U. S. 336 (1913); all *supra*.

The interblending of intrastate and interstate commerce cannot operate to deprive Congress of the exclusive jurisdiction conferred upon it by the Commerce Clause of the United States Constitution.

The general principle is stated and many of the leading authorities cited by Mr. Justice Hughes in the *Minnesota Rate Cases*, 230 U. S. 352 (1913).

> **"There is no room in our scheme of government for the assertion of State power in hostility to the authorized exercise of Federal power. The authority of Congress extends to every part of interstate commerce, and to every instrumentality or agency by which it is carried on; and the full control by Congress of the subjects committed to its regulation is not to be denied or thwarted by the commingling of interstate and intrastate operations. This is not to say that the nation may deal, with the internal concerns of the State, as such, but that the execution by Congress of its constitutional power to regulate interstate commerce is not limited by the fact that intrastate transactions may have become so interwoven therewith that the effective government of the former incidentally controls the latter. This conclusion necessarily results from the supremacy of the national power within its appointed sphere. *McCulloch v. Maryland*, 4 Wheat. 316, 405, 426; *The Daniel Ball*, 10 Wall. 557, 565; *Smith v. Alabama*, 124 U. S. 465, 473; *Baltimore & Ohio R. R. Co. v. Interstate Commerce Commission*, 221 U. S. 612, 618, 619 [Hours of employment case];**

Southern Railway Co. v. United States, 222 U. S. 20, 26, 27 [Safety appliance case]; *Mondon v. N. Y. N. H. & H. R. R. Co.*, 223 U. S. 1, 47, 54, 55 [second employers' liability case.]"

Also see *Illinois Central R. Co. v. Behrens*, 233 U. S. 473 (1914).

And *Phila. & Reading R. Co. v. Hancock*, 253 U. S. 284 (1920).

VII. (f) THE STATUTE CANNOT BE SUSTAINED BECAUSE SOME OF THESE COMPANIES ALSO DO SOME LOCAL BUSINESS, BY DISTRIBUTING NATURAL GAS AT CERTAIN POINTS FROM THEIR PIPE LINE SYSTEMS TO LOCAL COMMUNITIES.

The fact that these interstate gas companies, whether domestic corporations or not, are also engaged in rendering a local public utility service to certain definite communities, does not increase the authority of the State of West Virginia to exercise its regulatory power in such manner, as to directly interfere with and substantially destroy the constitutional freedom of such gas companies to carry on such interstate business independent of State molestation and restriction.

State Freight Tax, case 15 Wall. (82 U. S.) 232 (872), *supra*.

Hall v. De Cuir, 95 U. S. 485 (1877), *supra*.

LeLoup v. Mobile, 127 U. S. 640 (1888).

Crutcher v. Kentucky, 141 U. S. 47 (1891), *supra.*

Allen v. Pullman Co., 191 U. S. 171 (1903).

In *Western Union Telegraph Co. v. Kansas*, 216 U. S. 1 (1910), this Court said:

> "We cannot fail to recognize the intimate connection which, at this day, exists between the interstate business done by interstate companies and the local business which, for the convenience of the people, must be done or can generally be better and more economically done by such interstate companies rather than by domestic companies organized to conduct only local business. It is of the last importance that the freedom of interstate commerce shall not be trammeled or burdened by local regulations which under the guise of regulating local affairs really burden rights secured by the Constitution and laws of the United States. While the general right of the States to regulate their strictly domestic affairs is fundamental in our constitutional system and vital to the integrity and permanence of that system, that right must always be exerted in subordination to the granted or enumerated powers of the general government, and not in hostility to rights secured by the supreme law of the land. * * * ." (Underscore ours.)

See also *Ohio Railroad Commission v. Worthington*, 225 U. S. 101 (1912), *supra.*

South Covington & Cinc. Street Ry. Co. v. City of Covington, 235 U. S. 537 (1915), *supra.*

The State of West Virginia seeks to take advantage of the fact that these great interstate gas com-

panies do a small local business by supplying a comparatively small quantity of gas, from their gas in transit through their interstate transportation systems, to communities or industries along their interstate lines in West Virginia.

Seizing upon this situation, the State by this statute seeks to regulate, burden, interfere with, in fact prevent and prohibit, all interstate business of these gas companies, by extending the severely localized business of each of said gas companies, without their consent, over the whole State, and to the entire population of the State, domestic, industrial and other, thus seizing all of their business.

By pretending to regulate and control this small per cent. of local business, the statute by its operation would turn from its flow into Pennsylvania, Ohio and other States, all the gas produced by these companies in West Virginia, and force it into lines for delivery within the State of West Virginia. It not only burdens and regulates the interstate transportation system, but seizes the very article while en route in interstate commerce, and compels its diversion from delivery in other States to delivery throughout the State of West Virginia.

VII. (g) THE STATUTE CANNOT BE SUSTAINED BECAUSE THOSE INTERSTATE GAS COMPANIES, IF THERE ARE ANY, WHICH ARE NOT PUBLIC SERVICE COMPANIES UNDER THE LAW OF WEST VIRGINIA WOULD NOT BE AFFECTED.

The answer to any such contention, if made, is found in the words of the Court in *Louisville & Nashville R. Co. v. Eubank,* 184 U. S. 27 (1902). Referring to the point before us, Mr. Justice Peckham, speaking for the Court, declared (pages 41, 42):

> "It seems also to be thought that there is no regulation of commerce, provided it is not interfered with or regulated in all ways by which transportation of commodities between interstate localities may be accomplished; that if the commodity (tobacco in this case) can be transported by any other means or route, or by any other individual or corporation than the one affected by the regulation, commerce is not regulated within the constitutional meaning. On the contrary, it seems quite clear that any law which in its direct result regulates the interstate transportation of a single individual carrier, or company of carriers, violates the provision in question; that it is no answer that the commodity can still be transported by another carrier or by water instead of rail, so long as the direct effect of the State legislation is to regulate the transportation of the commodity by a particular means, by rail instead of by water, or by a particular individual or company."

It will no doubt transpire that some of the foregoing reasons will not be urged by the State of West Virginia as bases for sustaining the constitutionality of the statute in controversy.

As this brief of argument had to be prepared (this being a case of original jurisdiction) before the contentions of the defendant could be fully ascertained,

it was deemed advisable to anticipate, as far as possible, every imaginable reason for sustaining said statute that could be assigned by the defendant.

It is hoped that by pursuing this course this Court will not have been subjected to an unreasonable and unnecessary burden.

VIII.

THE POSSIBILITY THAT THE STATE OF WEST VIRGINIA MAY EXERCISE SOME FORBEARANCE AND THAT THE STATE PUBLIC SERVICE COMMISSION MAY EXERCISE A LIBERAL DISCRETION IN THE ENFORCEMENT OF SAID STATUTE, IN NO SENSE MITIGATES THE REPUGNANCY OF SAID STATUTE TO THE COMMERCE CLAUSE OF THE UNITED STATES CONSTITUTION.

Chief Justice Marshall in *Brown v. Maryland,* 12 Wheaton, 419 (1827) said:

> "Questions of power do not depend on the degree to which it may be exercised. If it may be exercised at all, it must be exercised at the will of those in whose hands it is placed."

In *Western Union Telegraph Co. v. Kansas,* 216 U. S. 1 (1910), *supra,* this Court said:

> "But it is said that none of the authorities cited are pertinent to the present case, because the state expressly disclaims any purpose by the statute in question to obstruct or embarrass interstate commerce. * * * But the disavowal by the state of any purpose to burden interstate commerce cannot conclude the question as to the fact of such a burden being imposed, or as to the unconstitutionality of the statute as shown by its necessary operation upon interstate commerce."

The answer of the State of West Virginia, filed in this case, makes discussion of this point purely theoretical. It has asserted its right, under the statute, to compel the delivery to its consumers of an adequate supply of gas, although such gas was at the time in transit to consumers in other states, through interstate transmission lines.

IX.

THE WEST VIRGINIA STATUTE SO INVOLVES THE REGULATION OF BOTH INTRASTATE AND INTERSTATE TRANSMISSION OF NATURAL GAS, THAT BY NO POSSIBLE CONSTRUCTION COULD IT BE UPHELD WITHOUT BEING SO REMODELED THAT IT WOULD BE A MERE SPECULATION WHETHER THE LEGISLATURE WOULD HAVE PASSED IT IN ITS NEW FORM, AND THIS COURT CANNOT RESHAPE SAID STATUTE SIMPLY BECAUSE IT EMBRACES ELEMENTS THAT IT MIGHT HAVE REACHED IF IT HAD BEEN DRAWN WITH A DIFFERENT MEASURE AND INTENT.

In *Oklahoma v. Wells Fargo & Co.*, 223 U. S. 298 (1912), the Oklahoma tax of 1910 on the gross revenues of corporations was under consideration by this Court, and whether certain parts could be sustained without the others was argued. Mr. Justice McKenna said (p. 302):

> "Whether the statute could be construed as separable of course would be ultimately for the State court in any event. *Telegraph Co. v. Texas*, 105 U. S. 460. But we see no possible construction upon which it could be upheld without being so remodeled that it would be a mere speculation whether the legislature would have passed it in the new form. Neither the court below nor this court can reshape the statute simply because it embraces elements that it might have reached if it had been drawn with a different measure and intent."

Chief Justice Elliott, in *State ex rel, Corwin v. The Indiana & Ohio Oil, Gas & Mining Co.*, 120 Ind.

576 (1889), *supra,* in condemning an Indiana statute which prohibited the transportation of natural gas from the State as repugnant to the commerce clause, declared (p. 578):

> "The provisions of the statute are so interlocked that separation is impossible. Where the provisions of a statute are so closely blended that a separation cannot be effected without substituting another law for that intended to be enacted, none can be made by the courts. *Griffin v. State ex rel.,* 119 Ind. 520."

X.

THE NATURAL AND NECESSARY OPERATION AND EFFECT OF SAID STATUTE WILL BE TO IMPAIR THE OBLIGATION OF CONTRACTS.

This question may be considered:

FIRST. With reference to the contracts made between the State of West Virginia and the interstate natural gas companies;

SECOND. With reference to the contracts made by these interstate natural gas companies with consumers in other States and with other natural gas companies in West Virginia and other States, and with the States of Pennsylvania, Ohio, &c.

A statement of the fact situation is the best argument that could be made under the above contentions.

The State of West Virginia, by charter to those gas companies organized under the laws of West Virginia, and by permits or certificates to the companies organized under the laws of other States and doing business in West Virginia, has entered into a contract with said corporations substantially to this effect: Those natural gas companies organized under the laws of West Virginia, and foreign gas companies admitted into said State, have the right to engage in a certain business within the State of West Virginia. The character of that business is set forth specifically, including the location of the principal place of business and its chief works; and the object and purpose for which the corporation was formed, and the kind and character of business in which it was to engage.

Gas companies incorporated under the laws of other States, and authorized to do business in West Virginia, were granted the same rights, powers and privileges, and were subject to the same regulations, restrictions and liabilities, as were conferred and imposed upon corporations chartered under the laws of West Virginia.

The State reserved the right, by Act of its legislature of 1867, to alter any charter or certificate of incorporation thereafter granted, and to alter or repeal any law applicable to such companies. Prior to that time there was no such right in the legislature.

Every application for charter, (Section 2899, c. 54, Code of West Virginia), had to set forth:

> "The object and purposes for which this corporation is formed are as follows: (Here insert fully the objects and purposes for which the corporation is formed, the kind or character of business in which it is to engage * * *)."

These gas companies accordingly took up leases, drilled wells, developed their gas fields, purchased gas from other producers, constructed their pipe lines, compressing stations, and the like, built their distributing systems in the cities, towns and villages they had agreed to supply, and continued their transportation systems through West Virginia across the State lines into Pennsylvania, Ohio and other States. In these other States they made contracts for the delivery of gas to consumers and to other gas-distributing companies and to the States themselves. Contracts were also made for the delivery of gas to other gas-transmission companies in West Virginia for transmission through their own system of pipe lines into other States.

There thus grew up and was developed this vast interstate transportation and transmission system and

interstate commerce in natural gas that have already been fully described in this brief of argument. The investment therein of these great interstate companies aggregates several hundred million dollars.

Now, after all these years, after these contracts by charter, and this course of dealing by and between the State of West Virginia and the natnatural gas companies, and by and between the natural gas companies and their consumers in West Virginia and in other States, for over a quarter of a century, the State of West Virginia, by the statute in controversy, undertakes to compel the natural gas companies operating in the State to increase their territory in West Virginia to be supplied, from perhaps one small community to communities and centers of population throughout the whole State, and to all residents of the State who may desire to consume the gas, and further undertakes to compel every gas company operating in the State to supply every other gas company operating in the State with enough gas to make up the deficit of such other company, if it has a deficit, in supplying consumers in West Virginia, and it further undertakes to compel every gas company in West Virginia, before it can transmit or transport any gas out of the State, to adequately supply not only its own consumers but every other consumer in the State, if so ordered by the authorities of the State. And all this without regard, first, to the contract between the State and these gas companies; secondly, without regard to the contract obligations which these companies may have entered into under the former regime before the passage of this Act; thirdly, without regard to the wishes, the capital, or the property of these gas companies or the effect of such changes upon the respective gas companies; and, fourthly, without regard to the investment of hundreds of millions

of dollars by these gas companies, in leases, wells, pipe lines, and compressor stations, and in the vast system of obtaining, producing, transmitting and selling natural gas in interstate commerce.

FIRST. The statute in controversy impairs the obligations of the contract made by the State of West Virginia with the natural gas companies operating in that State.

New, unusual and extraordinary burdens are placed upon these gas companies by the provisions of the statute in controversy, such as:

being compelled to enlarge their territory of supply throughout the State;

being compelled to supply all consumers, industrial and others as well as domestic;

being compelled to make connections with other gas companies and supply them with enough gas to make up the deficit of such other companies, if so ordered by the State authorities;

being compelled to give an adequate gas supply to all consumers alike in West Virginia before supplying any gas to any consumers outside of the State;

being compelled to abandon their interstate transmission and sale of gas, incurring thereby losses of hundreds of millions of dollars in plant and equipment.

None of these obligations was contemplated by their charters or previously enjoined by the laws of West Virginia.

All of these obligations are not only in conflict with the contract as made by the State of West Virginia with these gas companies, by the granting of charters to them, but are also in conflict with and directly opposed to the course of dealing between the State and these companies under said contracts, which has prevailed and been observed, recognized and permitted for over a quarter of a century, during which time, on the strength of this interpretation of the contract, these gas companies have made investments of hundreds of millions of dollars.

If it be argued that these changes are authorized by the reservation of the right to alter and amend charters under the provisions of the Corporation Laws of West Virginia of 1867, above referred to, then the answer is that this Court in *Railroad Company v. Commission of Wisconsin,* 237 U. S. 220, 234, said:

> "We would be very averse to deciding that, without explicit declaration, every general law of the State applicable to corporations is enacted as an amendment to their charters. * * * It is one thing to decide that corporations are subject to the police power of the State, and quite another to hold that every general law is an amendment to their charters."

Unless the statute in controversy can be defended under this provision of the West Virginia law as an amendment to the charters of these corporations, and it cannot be, then the statute in controversy directly affects, burdens, imposes new duties upon, entirely changes, and therefore impairs the obligations of the contract theretofore made by the State of West Virginia with these respective gas companies.

Miller v. The State, 15 Wall. 478.

Adirondack Railway v. New York State, 176 U. S. 335, 344.

Berea College v. Commonwealth of Kentucky, 211 U. S. 45.

Carondelet Canal Co. v. Louisiana, 233 U .S. 362, 377.

SECOND. The statute in controversy impairs the obligation of contracts made by these interstate natural gas companies with consumers and with other natural gas companies in other States, and with natural gas companies in the State of West Virginia which have purchased gas for transmission and transportation out of West Virginia into other States.

Under the course of dealing sanctioned and approved by the State of West Virginia for over a quarter of a century, these great interstate natural gas companies built their systems of pipe lines from West Virginia into these other States for the purpose of transmitting gas into such other States, and made contracts for the sale of such gas to consumers in these other States and to the States themselves. They also made contracts with other gas companies in such other States for the delivery of gas for transmission and distribution by such other companies in such other States. They also made contracts with gas companies in West Virginia engaged in interstate transmission for the sale of gas to be transported and transmitted into these other States.

All of these contracts are with one fell swoop utterly destroyed by the statute in controversy, because by the enforcement of the provisions of said statute the gas companies in West Virginia are forced and compelled to ignore such contracts, disregard the same, and supply

gas intended and consigned for delivery under said contracts, to other parties and other consumers in the State of West Virginia. No contract is excepted. Gas that has reached the border line of the State in transmission under these contracts to parties outside of the State, under the provisions of the statute in controversy, is there embargoed and its return to be supplied to consumers in West Virginia is compelled under heavy fines and penalties.

A more direct impairment of the obligation of a contract would not have resulted if this statute had in express terms provided that "notwithstanding your contracts with Ohio, Pennsylvania, Indiana, Maryland, Kentucky, and the United States Government, and notwithstanding the obligation thereof, and notwithstanding the fact that you are in the midst of the performance of these contracts in accordance with their terms, they shall not be regarded, they shall have no effect, they shall not avail, but you must supply all of this gas to consumers in the State of West Virginia."

XI.

THE NATURAL AND NECESSARY EFFECT OF SAID STATUTE IS TO DENY TO CITIZENS OF PENNSYLVANIA, OHIO AND OTHER STATES, THE PRIVILEGES AND IMMUNITIES GRANTED BY SAID STATUTE TO CITIZENS OF WEST VIRGINIA.

The language of the Constitutional provision, Article XIV, invoked by the above point, is as follows:

> "• • • No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws."

While this Article of the Federal Constitution does not necessarily relate to the prohibition against State interference with interstate commerce, nevertheless the vast majority of the cases in which this Court has been called upon to pass upon Article XIV, were cases likewise involving the question of interstate commerce.

This emphasizes the thought that whenever the discrimination or the deprivation prohibited by Article XIV has been attempted by any State, it has been directed more particularly against non-residents.

We are not left to conjecture as to the purpose of the statute of West Virginia. In the Answer filed by the State of West Virginia, the State baldly and boldly asserts the West Virginia has the right to require that West Virginia gas shall be supplied to West Virginia consumers until they shall have obtained an adequate

supply, and that this right of West Virginia consumers is superior and prior to any right or authority in the owner to introduce this gas into interstate commerce, &c.

It is manifest from an examination of the statute itself, and it is expressly stated in the Answer of the State of West Virginia in this case, that the very purpose of this Act is to discriminate in favor of consumers in West Virginia against consumers in other States. Every provision of the statute is drawn with this design and purpose in view.

The evidence in the case shows the effect of the operation of the statute will be, briefly stated, as follows:

FIRST. It will give to all classes of consumers in West Virginia, domestic, industrial and others, an adequate supply of natural gas, (the best fuel known to man for comfort, convenience and economy), in preference to consumers of any kind in other states.

SECOND. It will give to industries in the State of West Virginia advantages in competition with industries engaged in like lines of business, located outside of West Virginia.

THIRD. It will encourage and induce industries now located in other States to transfer their plants to West Virginia, so as to obtain the advantage of the use of natural gas.

FOURTH. It will practically deprive consumers of natural gas in Pennsylvania, Ohio, and other States, of the use of natural gas for fuel, and thus place them at a disadvantage as compared with consumers in West Virginia, in comfort, convenience, economy and business.

FIFTH. As between citizens of West Virginia it will enable those gas companies and individuals who are shipping gas out of the State in interstate commerce, but who are not engaged in furnishing gas within the State, to continue their business while all others are prohibited.

This Court said in *Connolly v. Sewer Pipe Co.*, 184 U. S. 540, 558:

> "What may be regarded as a denial of the equal protection of the laws is a question not always easily determined, as the decisions of this court and of the highest courts of the States will show. It is sometimes difficult to show that a State enactment, having its source in a power not controverted, infringes rights protected by the National Constitution. No rule can be formulated that will cover every case. * * * . In *Hayes v. Missouri,* 120 U. S. 68, 71, we said that the Fourteenth Amendment required that all persons subject to legislation limited as to the objects to which it is directed, or by the territory within which it is to operate, 'shall be treated alike, under like circumstances and considerations, both in the privileges conferred, and in the limitations imposed.' 'Due process of law and the equal protection of the laws,' this court has said, 'are secured, if the laws operate on all alike, and do not subject the individual to an arbitrary exercise of the powers of government.' *Duncan v. Missouri,* 152 U. S. 377, 382. Many other cases in this court are to the like effect. * * * For this court has held that classification 'must always rest upon some difference which bears a reasonable and just relation to the act in respect to which the classification is proposed, and can never be made arbitrarily and without any such basis.

> * * * But arbitrary selection can never be justified by calling it a classification. The equal protection demanded by the Fourteenth Amendment forbids this. * * * No duty rests more imperatively upon the courts than the enforcement of those constitutional provisions intended to secure that equality of rights which is the foundation of free government.' "

This Court said, in *Cotting v. Stock Yards Co.*, 183 U. S. 79, 87, quoting from *Reagan v. Farmers Loan & Trust Co.*, 154 U. S. 362:

> "The equal protection of the laws which, by the Fourteenth Amendment, no State can deny to the individual, forbids legislation, in whatever form it may be enacted, by which the property of one individual is, without compensation, wrested from him for the benefit of another, or of the public. This, as has been often observed, is a government of law, and not a government of men, and it must never be forgotten that under such government, with its constitutional limitations and guarantees, the forms of law and the machinery of government, with all their reach and power, must in their actual workings stop on the hither side of the unnecessary and uncompensated taking or destruction of any private property, legally acquired and legally held."

As stated, the statute and the Answer of the State of West Virginia show that discrimination, is what was sought; the statute abridges the privileges and immunities of citizens of other States, and also discriminates between those in the same State, but justifies all this in the manner hereinbefore stated. The answer to that alleged justification has already been made.

If for the moment, for the purpose of this argument, the violation of the Commerce Clause of the Constitution be forgotten, and the fact stated by this Court, that in matters of interstate commerce there are no State lines, be remembered, then clearly the very purpose and intent of this statute, as declared therein and asserted by the State in its Answer, is to give to citizens of West Virginia an adequate supply, and to non-residents no gas, if that is necessary to first supply the demands of the citizens of West Virginia. The whole question at issue in this suit is whether or not the State has the legal right to thus discriminate against and to abridge the privileges and immunities of non-residents of West Virginia.

XII.

THE NATURAL AND NECESSARY EFFECT OF SAID STATUTE IS TO DEPRIVE THE INTERSTATE NATURAL GAS COMPANIES OPERATING IN WEST VIRGINIA OF THEIR PROPERTY WITHOUT DUE PROCESS OF LAW.

It was held in the leading case of *Oklahoma v. Kansas Natural Gas Co., supra,* after citing and quoting from decisions of this and other Courts to the effect that the surface owners, under whose lands natural gas existed, could not be deprived of the right to reduce it to possession, without the taking of private property, without due process of law; the Court continuing:

> "It surely cannot need argument to show that if they could not be deprived of the right to reduce the gas to possession they could not be deprived of any right which attached to it when in possession."

It follows that any law which takes away from the owner of gas, after it has been reduced to possession, the right to dispose of it, is the taking of property without due process of law. Especially is this true in the instant case, where by this statute the State undertakes to select the market for this gas, to reserve it for future purchasers and use within the State of West Virginia, and to compel delivery to consumers or to other gas companies exclusively in said State of West Virginia,—parties to whom the owner of said gas is under no contract relation or obligation whatever.

Sanborn, C. J., in the case of *Haskell v. Cowham, supra* said:

"But an owner who by virtue of his ownership of land or of mining leases thereof has the vested right to draw by means of wells or pumps natural gas from beneath the surface is the owner of valuable property which the State cannot take from him without just compensation and State laws and acts of the officers of a State which prevent him from taking it from the land and selling it and conveying it out of the State in interstate commerce, while they permit the withdrawal and sale of such gas in interstate commerce, necessarily violate the national Constitution, (1) because they take his property without just compensation, (*Ohio Oil Co. v. Indiana,* 177 U. S. 190, 209, 210, 20 Sup. Ct. 576, 44 L. Ed. 279; *People v. New York Carbonic Acid Gas Co.,* 196 N. Y., 421, 441, 90 N. E. 441; *Manufacturers Gas & Oil Co. v. Indiana Natural Gas & Oil Co.,* 156 Ind. 679, 59 N. E. 169, 60 N. E. 1080)."

The case of *Kansas Natural Gas Co. v. Haskell,* decided by Pollock and Campbell, District Judges, 172 Fed. 545, contains a full discussion of this question and a review of the cases in this and lower courts, and reaches the same conclusion,—that any restrictions which would prevent the owner of gas, after it has been reduced to possession, from disposing of the same in the markets of his own selection, is the taking of property without due process of law.

This same proposition may be stated in still another form:

The statute in controversy, depriving the owner of property, which is subject to sale by him, of the right to contract for such sale to any party outside of West Virginia, thereby takes from him the Constitutional liberty to make contracts.

In *Allgeyer v. Louisiana*, 165 U. S. 578, this Court had under consideration a statute of Louisiana forbidding any person in the State "to effect, for himself or another insurance on property, then in this State, in any marine insurance company, which has not complied in all respects with the laws of this State." Allgeyer mailed a letter from New Orleans to New York to an insurance company there to insure certain shipments from New Orleans to foreign ports.

Mr. Justice Peckham, in delivering the opinion of this Court, holding the statute unconstitutional, said, (page 589):

> "* * * we think the statute is a violation of the Fourteenth Amendment of the Federal Constitution, in that it deprives the defendants of their liberty without due process of law. * * * The liberty mentioned in that Amendment means not only the right of the citizen to be free from the mere physical restraint of his person as by incarceration, but the term is deemed to embrace the right of the citizen to be free in the enjoyment of all his faculties; to be free to use them in all lawful ways; to live and work where he will; to earn his livelihood or avocation, and for that purpose to enter into all contracts which may be proper, necessary and essential to his carrying out to a successful conclusion the purposes above mentioned."

The effect of the statute in controversy is to prevent the making of any contract for the sale of gas by the owner thereof to any party outside the State of West Virginia. The statute attaches such conditions to such a contract of sale, so many impediments to its fulfillment, and so many contingencies,—some of which are sure, temporarily at least, to prohibit its perform-

ance—that no man would make the purchase under such a contract, subject to such conditions, impediments and contingencies.

As has been shown by the evidence of all the experts in the gas industry who have testified in this case—experts representing all the large interstate gas companies doing business in West Virginia—the statute in controversy would prohibit the making of contracts for sale of gas outside of West Virginia.

If this is its effect, then the statute deprives the owners of natural gas in the State of West Virginia—the natural gas companies—of their liberty; the liberty to contract for the sale of their property; without due process of law.

Again, the statute in controversy would place the expensive interstate pipe line systems and facilities of these interstate natural gas companies at the service of indefinite communities and of other public service gas companies engaged in furnishing a purely intrastate service (whose supply of gas happened to be inadequate). The statute would authorize these communities and these other gas companies to avail themselves of the use of said equipment and facilities which these interstate proprietors had provided not only for the specific communities that they had professed or undertaken to serve in West Virginia, but also in Pennsylvania, Ohio and other States, and aggregating an investment of hundreds of millions of dollars.

Mr. Justice Holmes said, in *Louisville & Nashville R. Co. v. Central Stock Yards Company,* 212 U. S. 132 (1909), in declaring unconstitutional the requirements of the Constitution and statute of Kentucky, as construed by the Supreme Court of that State, requiring

that intersecting railroads deliver to each other their own cars when loaded with goods consigned to points on the connecting line, in order to facilitate through traffic (page 143):

> "There remains for consideration only the third division of the judgment, which requires the plaintiff in error to receive at the connecting point, and to switch, transport and deliver all live stock consigned from the Central Stock Yards to any one at the Bourbon Stock Yards. This also is based upon the sections of the constitution that have been quoted. If the principle is sound, every road into Louisville, by making a physical connection with the Louisville & Nashville, can get the use of its costly terminals and make it do the switching necessary to that end, upon simply paying for the service of carriage. The duty of a carrier to accept goods tendered at its station does not extend to the acceptance of cars offered to it at an arbitrary point near its terminus by a competing road, for the purpose of reaching and using its terminal station. To require such an acceptance from a railroad is to take its property in a very effective sense, and cannot be justified, unless the railroad holds that property subject to greater liabilities than those incident to its calling alone."

Let it be noted that in the above and like cases of connecting railroads, &c., the question affects the transportation alone. In the case of natural gas companies and compulsory connections of their transmission systems of pipe lines we have the added feature and most important consideration of the compulsory delivery by this connection of the gas belonging to the

interstate gas company to the company having a deficit. The statute not only gives to the company having a deficit the use of the transmission system, but also the title to and beneficial use of the property being transported through such system.

Respectfully submitted,

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Attorney General.

A. LEO WEIL,
Attorneys for Complainant.

APPENDIX

EXHIBIT "A."

HOUSE BILL NO. 59.

A BILL in relation to persons, firms and corporations engaged in furnishing or required by law to furnish, natural gas for public use within this state, to provide remedies for the enforcement of this act, and penalties and punishment for violations thereof, and to extend the jurisdiction of the public service commission and of the courts of this state with respect thereto.

Be it enacted by the Legislature of West Virginia:

SECTION 1. That every person engaged in furnishing, or required by law, (whether statutory or common law) to furnish, natural gas for public use, or for the use of the public, or any part of the public, whether for domestic, industrial or other consumption, within this state, shall to the extent of his supply of said gas produced in this state (whether produced by such person or by any other person), furnish for public use within the territory of this state, and for the use of the public and every part of the public within the territory of this state in or from which such gas is produced, or through which said gas is transported, or which is served by such person, a supply of natural gas reasonably adequate for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed or desired to be consumed by the public, or any part of the public, within said territory in this state, and for which said consumer or consumers therein shall apply and be ready and willing to make payment at lawful rates.

SECTION 2. That in case any person engaged in furnishing, or required by law (whether statutory or common law) to furnish, natural gas for public use within this state, or for the use of the public or any part of the public within this state, shall have a production or supply of natural gas which is, or probably will be, insufficient to furnish for such use, (for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed by the public or any part of the public), within the territory in this state served by such persons, then and in that event the public service commission shall have authority, and the same is hereby conferred upon it, upon the application of any such person or any of his consumers within this state, and after due hearing upon notice and proof to the satisfaction of the commission that public convenience and necessity so require, to order any other person engaged in furnishing or required by law (whether statutory or common law) to furnish, natural gas for public use within this state, and producing or furnishing natural gas for public use in said territory or transporting the same through said territory, to furnish to such person having such insufficient production or supply, natural gas for the purpose of supplying such deficiency, at and during such times, upon and at such just and reasonable terms, conditions and rates, and in such amounts, as the commission shall prescribe. And whenever, after such hearing upon notice and proof, the commission shall determine that public convenience and necessity so require, the commission shall have authority to provide for and compel the establishment of a reasonable physical connection or connections between the lines, pipes or conduits of such persons having such excess supply of gas and the lines, pipes or conduits of the person having such deficiency of supply, and to require the laying and construc-

tion of such reasonable extensions of lines, pipes or conduits as may be necessary for the establishment of such physical connection or connections, and to ascertain, determine and fix the just and reasonable terms and conditions of such connection or connections, including just and reasonable rules and regulations and provisions for the payment of the costs and expense of making the same or for the apportionment of such cost and expense as may appear just and reasonable. *Provided, however,* that no person shall, by virtue of this section, be ordered to furnish natural gas to any other person so engaged in furnishing, or required by law to furnish, natural gas for public use, except to the extent that the person so ordered to furnish natural gas shall, at the time, have a production or supply of natural gas in excess of the quantity sufficient to furnish a reasonably adequate supply to his consumers within this state; nor shall any person, by virtue of this section, be ordered to furnish natural gas to any other person so engaged in furnishing or required by law to furnish, natural gas for public use in a territory within this state, if and when the said person having said excess, shall, to the extent of such excess, be ready and willing to furnish, and within such time as the commission shall prescribe actually furnish, to the consumers within said territory a reasonable adequate supply of natural gas.

SECTION 3. That in so far as the same shall not be in conflict with this act, all of the authority, powers jurisdiction and duties conferred and imposed on the public service commission by the act entitled, "An act to create a public service commission and to prescribe its powers and duties, and to prescribe penalties for the violations of the provisions of this act," passed February twenty-first, one thousand nine hundred and thir-

teen, as amended by the act entitled "An act to amend and re-enact sections one, two three, four, five, nine, ten, fourteen, fifteen and twenty-two, of chapter nine of the acts of one thousand nine hundred and thirteen, creating a public service commission, prescribing its powers and duties, and penalties for violation of the provisions of said chapter, and to add thereto six sections to be known as sections twenty-three, twenty-four, twenty-five, twenty-six, twenty-seven, twenty-eight, enlarging the powers and duties of said public service commission, prescribing additional penalties and giving to the commission power to punish for contempt," passed February tenth, one thousand nine hundred and fifteen, are hereby conferred and imposed on the public service commission in respect to the subject-matter of this act, or any part thereof.

SECTION 4. That in case of violation of any provision of this act any person aggrieved or affected thereby may complain thereof to the public service commission in like manner, and thereupon such procedure shall be had, as is provided in respect to other complaints to or before said commission, and all such proceedings and remedies may be taken or had for the enforcement or review of the order or orders of said commission, and for the punishment of the violation of such order or orders, as are provided by law in respect to other orders of said commission. In case of the violation of any provision of this act, the public service commission, or any person aggrieved or affected by such violation, in his own name, may apply to any court of competent jurisdiction by a bill for injunction, petition for writ of mandamus or other appropriate action, suit or proceeding, to compel obedience to and compliance with this act, or to prevent the violation of this act, or

any provision thereof, pending the proceedings before said commission, and thereafter until final determination of any action, suit or proceeding for the enforcement or review of the final order of said commission; and such court shall have jurisdiction to grant the appropriate order, judgment or decree in the premises.

SECTION 5. That if any person, subject to the provisions of this act shall fail or refuse to comply with any requirement of the commission hereunder, such person shall be subject to a fine of not less than one hundred dollars nor more than five hundred dollars for each offense; and such person, or the officers of the corporation, where such person is a corporation, may be indicted for their failure to comply with any requirement of the commission under the provisions of this act, and upon conviction thereof, may be fined not to exceed five hundred dollars, and in the discretion of the court, confined in jail not to exceed thirty days. Every day during which any person, or any officer, agent or employe of such person shall fail to observe and comply with any order or direction of the commission, or to perform any duty enjoined by this act, shall constitute a separate and distinct violation of such order or direction of this act, as the case may be.

SECTION 6. That any person claiming to be damaged by any violation of this act may bring suit in his own behalf for the recovery of the damage from the person or persons so violating the same in any circuit court having jurisdiction. In any such action the court may compel the attendance of the person or persons against whom said action is brought, or any officer, director, agent or employe of such person or persons, as a witness, and also require the production of all books, papers and

documents which may be useful as evidence, and in the trial thereof such witness may be compelled to testify, but any such witness shall not be prosecuted for any offense concerning which he is compelled hereunder to testify.

SECTION 7. That the word "person" within the meaning of this act shall be construed to mean, and to include, persons, firms or corporations.

SECTION 8. That the sections, provisions and clauses of this act shall be deemed separable each from the other, and also in respect to the persons, firms, corporations and consumers mentioned therein or affected thereby, and if any separable part of this act be, or be held to be unconstitutional or for any reason invalid or unenforceable, the remaining parts thereof shall be and remain in full force and effect.

SECTION 9. That all acts and parts of acts in conflict with this act are hereby repealed.

Digest of Statute.

SECTION I.

Every public service natural gas company

though its business be limited in territory

or

(a) limited to domestic consumers in West Virginia and other States,

or

(b) limited to industrial consumers in West Virginia and other States,

or

(c) limited to other consumers in West Virginia and other States,

nevertheless, without regard to its charter limitations: limitations of territory, or limitations of business, to the extent of its supply produced in West Virginia,

shall furnish a supply reasonably adequate to all three classes of consumers, domestic, industrial or otherwise:

(a) throughout the whole territory of the State of West Virginia,

or

(b) within the territory of the State of West Virginia in or from which such gas is produced,

or

(c) within the territory of West Virginia through which said gas is transported,

or

(d) within the territory of West Virginia which is served by such company;

and these classes of consumers throughout the State of West Virginia shall be furnished with a reasonably adequate supply for all purposes for which gas is consumed,

or

for which gas is desired for consumption, and for which said purposes said consumers shall apply and be ready to pay lawful rates;

And this in utter disregard:

(A) that any or all of this gas may have been sold to consumers in other States;

(B) that this gas is in transit to such consumers across State lines;

(C) that the gas company is under contract to deliver and transmit such gas across the State line;

(D) that this demand will destroy the business in other States;

(E) that the plant and investment of the gas company to a large extent will be destroyed;

(F) that enormous financial losses will be suffered by consumers in other states and their lives will be endangered and they will suffer in health, comfort and convenience;

(G) that the business of every gas company in the State will be spread out over the whole State;

(H) that preference to domestic consumers against industrial and other consumers will be prevented;

(I) that new, unusual and wasteful uses of gas will be encouraged;

(J) That no gas company will know from day to day and week to week and month to month what will be the demands upon its lines, what territory it will be called upon to supply, or to what uses such gas will be applied.

SECTION II.

Whenever any public service natural gas company

has an insufficient supply for all purposes, domestic, industrial or otherwise, for its consumers within the territory served by it,

Then and in that event the Public Service Commission of West Virginia, on proof that public convenience and necessity so require,—

May order

any other public service natural gas company producing or furnishing gas in said territory,

or

transporting the same through said territory,

even though it is not engaged in supplying gas to that territory, to make up such deficiency

to

the other gas company so deficient,

during such times and on such just and reasonable terms, conditions and rates and in such amounts as the Commission may prescribe,

and

When the Commission decides that public convenience and necessity require,

it may compel connection between the pipe lines and conduits of the two companies,

and may compel laying and construction of lines for such connections,

on the terms, conditions, rules and regulations, and provisions for payment of costs and expenses, as the Commission determines.

PROVIDED:

No such order shall be made

except to the extent

The helping company

has an excess over amount required to supply its consumers in West Virginia, whether it has enough to supply its consumers in other States or not,

or

is ready and willing to furnish that same territory and give consumers therein a reasonably adequate supply;

And this in utter disregard,—

(A) of the charter rights and obligations of the company so held up; and that it may have carefully refrained from undertaking to supply some populous city it knew it could not for various reasons supply.

(B) that any or all of this gas has been sold to consumers in other States;

(C) that it is in transit to such consumers across State lines;

(D) that the gas company is under contract to deliver and transmit such gas across the State line;

(E) that this intermittent demand will destroy the business in other States;

(F) that the plant and investment of the gas company to a large extent will be destroyed;

(G) that enormous financial losses will be suffered by consumers in other States and their lives will be endangered and they will suffer in health, comfort and convenience;

(H) that no gas company will know from day to day and week to week and month to month what will be the demands upon its lines, what territory it will be called upon to supply, or to what uses such gas will be applied.

SECTION IV.

In case of violation party aggrieved
may apply for injunction or mandamus or other action to enforce orders
pending proceedings original or on review.

SECTION V.

For failure or refusal to comply with any requirement of Commission, even pending review—

party offending subject to
fine $100 to $500 each offence;

may also be indicted and on conviction fined not to exceed $500,
imprisoned not beyond 30 days;

every day separate offence;

Thus during time in which appeal may be pending or other proceedings for review,—

For thirty days
can be fined $15,000
jailed 900 days, nearly three years.

SECTION VI.

Damaged party may sue and recover damages.

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15

COMMONWEALTH OF PENNSYLVANIA, Complainant

vs.

STATE OF WEST VIRGINIA, Defendant.

Complainant's Digest of Evidence

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James McMillin Printing Company, Penn Ave. and Barbeau St., Pittsburgh, Pa.

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1921.

Number 17—Original

COMMONWEALTH OF PENNSYLVANIA, Complainant

vs.

STATE OF WEST VIRGINIA, Defendant.

Complainant's Digest of Evidence

I.

DESCRIPTION OF WITNESSES AS EXPERTS, THEIR EXPERIENCE, THEIR OPPORTUNITIES FOR OBTAINING INFORMATION RELATING TO THE NATURAL GAS INDUSTRY, &c., AND THE CONTRAST IN THESE RESPECTS OF THE WITNESSES FOR COMPLAINANTS AND THE WITNESSES FOR DEFENDANT.

Witnesses Produced by Plaintiffs.

HARRY A. QUAY.

(Pages 4-5):

General Manager of The Manufacturers Light & Heat Company (a Pennsylvania corporation). Has been in the natural gas business for about 25 years. Has served as Assistant General Manager, District Manager, General Foreman and Chief Inspector for numerous gas companies in Pennsylvania, Ohio and West Virginia, to-wit, The Oil City Fuel Supply Company, The East Ohio Gas Company, Irriquois Natural Gas Company, Peoples Natural Gas Company, Northwestern Natural Gas Company, River Natural Gas Company, Mountain State Gas Company, Hope Natural Gas Company, Clarksburg Light & Heat Company, Keener Oil & Gas Company and South Penn Oil Company.

T. O. SULLIVAN.

(Pages 183-184):

Vice-President and General Manager of the Hope Natural Gas Company. Connected with the natural gas

business for about 35 years. Had been General Manager of The Manufacturers Light & Heat Company for about eight years; has been Superintendent of the Peoples Natural Gas Company, in Pittsburgh, and has served in various capacities for the Central Kentucky Natural Gas Company, the Reserve Gas Company, the United Natural Gas Company and the Buffalo Natural Gas & Fuel Company.

JOHN B. CORRIN.

(Pages 316-317):

Assistant Manager and Vice President of the Hope Natural Gas Company, Manager of the Reserve Gas Company, Vice-President and Manager of the Connecting Gas Company, Vice-President and Manager of the River Gas Company, Vice-President of the Clarksburg Light & Heat Company. Has been in the oil and natural gas business for about 30 years.

H. A. WALLACE.

(Pages 358-359):

General Manager of the United Fuel Gas Company, President of the Cabin Creek Gas Company. Has had 30 years' experience in the oil and gas business. Has served in various capacities for the Hope Natural Gas Company and has been Division Superintendent for said Company in West Virginia.

JOHN B. TONKIN.

(Page 416):

Vice-President and General Manager of the Peoples Natural Gas Company. Has been in the natural

gas business for 26 years. For 16 years was the Treasurer of the Hope Natural Gas Company, the Reserve Gas Company, the Connecting Gas Company, the River Gas Company and the Marion Oil Company. Prior to that was the General Bookkeeper of the East Ohio Gas Company and the Hope Natural Gas Company, and prior to that was in the purchasing department and in field work for the River Gas Company.

W. W. FREEMAN.

(Page 453):

President of the Union Gas & Electric Company of Cincinnati, Vice-President of the Columbia Gas & Electric Company and Vice-President and Director of the Cincinnati Gas Transportation Company.

JUDGE JAMES H. REED.

(Page 483):

Senior Vice-President of the Philadelphia Company.

J. E. ANGLE.

(Pages 533-534):

General Superintendent of the Fayette County Gas Company. Has been in the gas industry for 24 years. Prior to being connected with the Fayette County Gas Company had been connected with the Corning Natural Gas Company, in Ohio, and with the Youngstown Fuel Supply Company, in Pennsylvania.

MARTIN B. DALY.

(Pages 563-564):

President of the East Ohio Gas Company. Has served as President and General Manager, and in an executive capacity has participated in the general management of all the affairs of said Company. Has been individually connected with the natural gas business in all its aspects for 37 years.

T. J. JONES.

(Pages 629-630):

Manager of the natural gas properties of the Pure Oil Company, which includes Columbus, Dayton and Springfield. From 1913 has been connected with gas companies in the vicinity of Columbus, Ohio. From 1898 to 1913 engaged in the artificial and manufactured gas business.

L. B. DENNING.

(Pages 650-651):

Vice-President and Director of the Ohio Fuel Supply Company. Actively identified with this Company since its organization in 1902. From 1902 to 1910 counsel of the Southern District of Ohio for said Company. 1910 General Counsel and Director. 1918 Assistant to President and Secretary of Company and made Director of the Company. In June, 1918, Vice-President of the Company.

J. W. McMAHON.

(Pages 716-717):

Manager of the Northwestern Ohio Natural Gas Company. Identified with same since 1902. Has had experience in the oil and gas business since 1895. Has worked as fuel agent in Ohio and Indiana and in 1902 became Manager of the Northwestern Ohio Natural Gas Company located at Toledo.

G. F. BATCHELOR.

(Page 741):

President of the Natural Gas Company of West Virginia since 1915. Connected with said Company for 33 years. Acted as Secretary and Treasurer for 12 years.

EUGENE B. WHITCOMB.

(Page 747):

President of the Union Natural Gas Corporation. Has had experience in the natural gas industry in Ohio and Pennsylvania for about 45 years. Has been Secretary and Treasurer and Assistant to the General Manager of the Manufacturers Gas Company, Warren and Chautauqua Gas Company, the Northern Oil Company and the Southern Oil Company. From 1902 to 1907 Secretary and Treasurer of the Union Natural Gas Company. From 1907 to 1917 General Manager and Vice-President of the Union Natural Gas Company. In 1917 made President of said Company.

J. K. ANDERSON.

(Pages 808-811 Inc.):

Consulting Engineer and senior member of the firm of Anderson & Taylor, Consulting Engineers, at Charleston, W. Va. Has acted as Consulting Engineer for the Public Service Commission of West Virginia and has had experience in that connection in the matter of the valuation of natural gas utilities. From July, 1913, to October, 1919, acted as Chief Engineer of the Public Service Commission of West Virginia and spent considerable time in matters concerning natural gas utilities. Has had considerable experience in the production of natural gas and has a general knowledge of the gas industry, especially in West Virginia. Is a member of the American Institute of Mining and Metallurgical Engineers, American Society of Civil Engineers, American Association of Engineers and the West Virginia Engineers Association, being President of the latter association. Also a member of the Natural Gas Association of America. Has a particular knowledge of the conditions obtaining in some of the large gas utilities and some of the large industrial consumers of those utilities in West Virginia.

SAMUEL S. WYER.

(Pages 860-865, Inc.):

Consulting Engineer of Columbus, Ohio. An expert on gas questions. Member of American Society of Mechanical Engineers, American Institute of Mining Engineers and American Association for Advancement of Science, and of the American Gas Association. During

the war was in charge of the natural gas affairs of the United States Fuel Administration. All his professional life has been devoted to natural gas problems, since graduating from the College of Engineering of Ohio State University in 1903. Author of numerous treatises on the subject of natural gas and kindred subjects, as per the following:

A textbook on Producer Gas and Gas Producers; a pamphlet on Rate Regulation and Electric power; a treatise on Regulation, Valuation and Depreciation of Public Utilities; a pamphlet on Depreciation of Natural Gas Wells; a pamphlet on Natural Gas Service; compilation of all of the leading cases relating to the use of gas compressors; paper before the American Institute of Mining Engineers on "Is it Feasible to Make Common Carriers of Natural Gas Transmission Lines?"; paper before the American Institute of Mining Engineers on "Development of the Law Relating to the use of Gas Compressors in Natural Gas Production;" paper before the American Institute of Mining Engineers on "Effect and Necessary Use of Gas Compressors in Natural Gas Production;" paper before the American Society of Mechanical Engineers (jointly with Prof. Robert F. Earhart, Professor of Physics, Ohio State University, Columbus, Ohio), on "Deviation of Natural Gas from Boyles' Law;" paper on "Criteria for Making Public Utility Service Extensions," published in Case and Comment; paper on "The Reasonableness and legal Right of the Minimum Charge in Public Utility Service;" paper before the American Institute of Mining Engineers on "Principles of Natural Gas Leasehold Valuation;" paper on "Electrolysis Damages from Stray Electric Currents from Single Trolley Elec-

tric Railways," published in Case and Comment; paper on "Effect of Gas Pressure on Natural Gas Cooking Operations in the Home," (jointly with Edna Noble White and Grace Linder, of the Department of Home Economics, Ohio State University), —this was published as Ohio State University Bulletin No. 28; Digest of all the publication of the Bureau of Standards on Electrolysis of Underground Structures, caused by the Disintegrating Action of Stray Electric Currents from Electric Railways; paper before the Natural Gas Association of America, on "Elimination of Discrimination in Public Utility Rates by Readiness-to-Serve Charges;" paper on "Natural Gas, Its Production, Service and Conservation," published as Part 7, Bulletin 102, of the Smithsonian Institution, Washington, D. C.; pamphlet on "Use and Conservation of Natural Gas," published by the United States Fuel Administration; paper on "Fire Hazard due to Stray Electric Currents from Single Trolley Electric Railays," published by National Fire Protection Association; Compilation of Cases Relating ot Off-Set Well Drilling; pamphlet on "Waste and Correct Use of Natural Gas in the Home," published as Technical Paper No. 257, United States Bureau of Mines; Catechism on Natural Gas, prepared especially for those teaching conservation of natural gas, published and printed as part of the natural gas conservation program of the United States Bureau of Mines.

Has studied production, transportation and distribution of natural gas and has made an examination of the plants of natural gas companies in practically every section of the United States.

At the present time is Consulting Engineer for the United States Bureau of Mines, is in charge of the natural gas conservation activities of this Bureau all over the United States, and is working with various other Federal departments on important gas questions. Has been employed from time to time as natural gas expert on the production, transportation and distribution of natural gas to the Federal Government by various States, by a number of Public Service Commissions and by most of the larger natural gas companies of the United States and Canada.

EDWIN ROBINSON.

(Page 1372):

Secretary of the West Virginia Oil and Natural Gas Association since it was organized in 1915. The purpose of this organization is to gather information of the oil and gas industry of the State, and gather statistics that is vital to the oil and gas industry in West Virginia. There are about 2,000 members in this organization, producers of oil and gas, in the State of West Virginia.

ROBERT CUMMINS.

(Page 1444):

Secretary and member of the Board of Directors of and counsel for the South Penn Oil Company. Has kept these official positions for about nineteen years.

Compare foregoing witnesses with those of Defendant as to experience and knowledge of the Gas Industry.

DEFENDANT'S WITNESSES.

H. E. NEASE.

(Pages 976, 977, 978,979,980) :

Has been Chief Statistician of the Public Service Commission of West Virginia for the past seven years. Prior to that time was connected with the office of the State Tax Commissioner for eight years, making a total of 15 years in which he has been connected with the executive departments of the State of West Virginia, i. e., the Board of Public Works or the Public Service Commission. As State Tax Commissioner had charge of the reports made by the public utilities of the State for tax purposes, all public utilities being required to report to the Board of Public Works under the laws of West Virginia. As Statistician is in charge of the Commission's Public Service Department of Statistics and Accounts. Is frequently called upon in an official capacity to make investigations in connection with the rates and service of public service corporations, which investigations involve examination of the books and records of the utilities with respect to their financial operations. Prior to service with the West Virginia Public Service Commission and the Tax Commission was engaged in the lumber manufacturing business as a bookkeeper and assistant manager, and prior to that was a school teacher. Has had no practical experience in the oil and gas business, other than that stated. For 15 years has sat in an advisory capacity with the Board of Public Works. Has never made any personal investigation of gas companies except those that had rate cases pending. In case of appeals from assessments by the Board of Public Works has had occasion to make some further investigations.

CHARLES E. KREBS.

(Pages 1083 to 1086):

By profession, General Engineer and Geologist. In 1909 was appointed as assistant state geologist to Dr. I. C. White of the West Virginia Geological Survey; was assistant to Dr. White until 1915. Work here consisted in gathering data for detailed geological reports that were published by the West Virginia Geological Survey under the direction of Dr. I. C. White. From 1909 to 1915 his work took him over a great part of the State of West Virginia. In 1906 took up general geological work leaving the West Virginia Geological Survey, and during 1917 worked in West Virginia, Ohio and some in Kentucky, in which considerable work was done in studying the general structure of oil and gas for different operating companies. In 1918 continued on the same work in West Virginia, Ohio and Kentucky. In 1919 worked along the same line in Ohio, West Virginia, Kentucky, Texas and Louisiana. In 1920 still continued the same. During the past year has done work in West Virginia, Ohio, Kentucky, Texas, Louisiana, Mississippi and a little work in Florida. The data collected in the years 1911 to 1916 related to the study of the general structure of the different counties of West Virginia, making structural maps on which were indicated the anticlines and synclines, and in gathering data for oil and gas wells, their records, elevations, studying the sands where they could get production. His work with the West Virginia Survey has brought him into actual personal experience with and examination of the minerals of West Virginia, including oil and gas.

J. S. LAKIN.

(Page 1138):

Has been a member of the State Board of Control of West Virginia since June 30, 1909. The State Board of Control has charge of the financial and business affairs of the State educational insitutions, and has full power to govern, manage and control all the penal, charitable and correctional institutions. It has charge of the property of the State owned away from the capitol. It has charge of the financial and business affairs of any officer, board or agent of the State of West Virginia not having offices at the capitol. It has charge of the State insurance.

JOHN J. CORNWELL.

(Page 1193):

Governor of the State of West Virginia. Governor since March 4th, 1917.

B. F. ROBINSON.

(Page 1202):

Resides in Clarksburg, West Virginia. Has resided there all his life. Is President of the Clarksburg Light & Heat Company. Has been connected with that Company since its organization in 1904. Prior to the organization of the Clarksburg Light & Heat Company was an officer, for four years, in the West Fork Oil and Gas Company, a local organization. Is a stockholder in the Clarksburg Light & Heat Company.

W. C. ALLMAN.

(Page 1214):

Resides at Weston, West Virginia. Was Clerk of the Circuit Court of Lewis County for six years, term having expired January 1st, 1921.

I. WADE COFFMAN.

(Page 1216):

Resides in Clarksburg, West Virginia. Clerk of the Circuit Court of Harrison County for the past 12 years.

R. T. CUNNINGHAM.

(Page 1217):

Age 46. Secretary and Treasurer of the Monongah Glass Company, located at Fairmont. Has been interested in the glass business since 1910 and an officer of that Company, devoting all his time to it since 1914. Prior to 1914, about 1894, was employed in the coal business, with the Fairmont Coal Company, Consolidation Coal Company and kindred companies.

CHARLES M. SNAITH.

(Page 1251):

Has been engaged in the production of oil and gas for about 10 years. Prior to that time was in the business of drilling oil and gas wells for about a period of 25 to 28 years. Has drilled wells in Lewis, Gilmer and Braxton Counties, West Virginia, for the Hope Natural Gas Company, South Penn Oil Company, Crude

Oil Company and several independent producers. Together with other associates is at present drilling and producing principally in Lewis County, also in Braxton and Gilmer Counties. Together with his associates has a lease of 1378 acres of gas territory in Lewis, Braxton and Gilmer Counties. Is also producing gas from the Smith Farm of about 200 acres, two and a half miles from Weston in Lewis County. Also producing oil from three farms on Sand Fork in Gilmer County, the acreage there being about 268 acres. As a result of experience gained in drilling for others and in operating on his own behalf, has had occasion to look for leases and is more or less familiar with the oil and gas territory of Lewis, Braxton and Gilmer Counties.

CHARLES A. SHORT.

(Page 1274):

Has resided within four miles of Shinnston all his life. At present is a contractor and dealer in lumber and builders' supplies. Since October 2nd, 1902, has been interested in the development and furnishing of gas to the town of Shinnston. The Home Petroleum Gas Company, with which he is connected, has an acreage of about 250 acres in Eagle District, Harrison County, about four miles from Shinnston, and 40 acres at the edge of Marion County, two miles beyond the former acreage; 32 acres about two miles North of Shinnston. Is familiar with the section surrounding Shinnston with respect to oil and gas territory and the development of it. Is at present the Vice President of the Home Petroleum Gas Company and a large stockholder in said Company.

E. D. LEWIS.

(Page 1297):

A member of the Public Service Commission of West Virginia since June 1st, 1919.

GEORGE W. WILSON.

(Page 1298):

A resident of Weston, West Virginia. Associated in business with Charles M. Snaith. Has been in the gas business for about 10 years. Prior to that time was in the oil business and real estate business. Had no experience in connection with the production of natural gas until within the last 10 years. Is interested with Mr. Snaith and others in the 1378-acre lease and a little gas well near Weston, in Lewis County.

VANCE L. HORNER.

(Page 1304):

Resident of Lumberport, West Virginia. Has lived in Harrison County, West Virginia, all his life. Has been interested in the oil and gas business since 1907. Is connected with the Lumberport Gas Company as Vice President, and President of the Shinnston Gas Company and President and Manager of the Eagle District Gas Company and Manager of the Horner Gas Supply Company and has some outside wells in partnership with Shaffner Brothers.

PARKE BOWSER.

(Page 1324):

Resident of Parkersburg, West Virginia, Wood County. Has been engaged in the oil and gas business all his life. Began work at the age of 14 handling wells, and as an owner at the age of 15 or 16. Started in pumping and roust-about work. Worked in the oil and gas fields in Pennsylvania, West Virginia and California for about 20 years. At the present time is engaged in pumping and roust-about work and general work for the different companies and some office work, foreman and superintendent and as owner. Worked first in the oil business as a pumper. In Ohio and in California worked in drilling wells. Then worked for the South Penn Oil Company in Lewis County, West Virginia; did some lease work, office work and foreman work for this Company in the years 1901, 1902 and 1903. Then with the Guarantee Oil Company in Calhoun County, as foreman. Following that looked after his own interests in oil and gas from about 1904 up to the present time. Has worked for others or operated on his own behalf in Lewis, Calhoun, Ritchie, Gilmer and Wood Counties. At the present time is operating in Calhoun, Ritchie and Gilmer Counties, where he has about 70 oil and gas wells. All of these wells produce some gas, but about 15 produce gas alone.

F. C. DEVERICKS.

(Page 1340):

Is a resident of Clarksburg, Harrison County, West Virginia. Is a native of West Virginia. Has lived practically all his life in the vicinity of Clarksburg. At

present is engaged in producing gas. His experience in the oil and gas industry dates back to 1897. Was first employed by the South Penn Oil Company, in Doddridge County, as a grader on the roads. Next was employed by the Carter Oil Company, pumping, in Doddridge County, Then went to dressing tools. Later worked with the Eastern Oil Company. Later came to Clarksburg and began to look up leases. Has been engaged in the real estate business and the taking of leases in connection with various parties in Clarksburg for about 16 years. Has been interested in the development of gas territory in Doddridge County, and has been engaged in the production of gas in Harrison, Ritchie and Doddridge Counties.

II.

HISTORICAL AND DESCRIPTIVE OUTLINE OF DEVELOPMENTS OF AND OPERATING METHODS EMPLOYED IN NATURAL GAS INDUSTRY. THE DISCOVERY OF NATURAL GAS AND DEVELOPMENT OF NATURAL GAS FIELDS WERE INCIDENT TO OIL DEVELOPMENT AND AT FIRST GAS WAS OF NO VALUE THERE BEING NO MARKET FOR THE SAME.

HARRY A. QUAY.

Pages 10 to 12; 18 to 20; 23, 24; 126, 127; 128, 129, and 153 to 155.

T. O. SULLIVAN.

Pages 193, 194; 196 to 203; 249 to 253; cross-examination; 284, 285, 314.

JOHN B. CORRIN.

Pages 329, 330, 345, 346—cross-examination.

MARTIN B. DALY.

Pages 579, 584:

L. B. DENNING.

Page 683.

J. K. ANDERSON.

Pages 818, 827.

The testimony of the above witnesses is summarized as follows:

The only way to determine the presence of gas in any particular field or territory is by drilling a hole down into the various gas bearing sands. No other way has been discovered by the trade. Natural gas is found in a comparatively small number of fields, all being small, in Pennsylvania, Ohio and West Virginia.

How long the supply of gas from a particular field or territory will last is indefinite, impossible of determination, but some indication may be furnished by the ratio of decrease in rock pressure. By "rock pressure" is meant the pressure under which the gas is confined in the gas bearing sands. When these sands are tapped by the drill in the well the natural tendency of gas to expand drives the gas to the mouth of the well.

As the supply in a particular sand becomes depleted, the pressure decreases accordingly, owing to the fact that a lesser amount of gas is confined in a given space.

Rock pressure indications are by no means infallible, and wells which have started off with a high pressure have produced less gas than wells which when first drilled showed a low rock pressure. Sometimes the hardness of the sand has some effect upon pressure.

The discovery of gas in any field does not necessarily prove that the drilling of more wells in the same field will result in finding more gas. It is impracticable to shut in wells for the purpose of conserving one's gas since the operations on the adjoining land, will drain the entire gas bearing sand, including that extending

under the land of others as well. Sometimes also rock pressure decreases in a well which has been shut in when there are no operations in the same territory draining the sand. It has been conjectured that this may sometimes be due to the "drowning out" of the wells, that is, the settling of moisture in the well which has been shut in.

In the days preceding the establishment of the gas industry, drilling operations were carried on for the sole purpose of finding oil. In drilling for oil quantities of gas were encountered. At that time the gas was considered useless. As a matter of fact it was a source of constant danger, inasmuch as the gas was liable to ignite and destroy the oil derrick, causing accidents and delaying operations. Ordinarily the gas was taken off to one side of the regular derrick, lighted and permitted to burn. This was the condition until about 1890.

At about this time, however, the potentialities of natural gas as fuel for cooking, heating and lighting purposes began to be observed. The men working on the oil leases took some of the gas to their shanties or to boiler houses and used it for these purposes. Gradually the use extended to homes in the vicinity, later on to little settlements and finally the gas was piped to larger towns. Although the crudeness of the appliances in the early days prevented the service from being altogether satisfactory, still it was noted that the use of this fuel was unaccompanied by soot or dirt, and that it necessitated less work and trouble than did other fuels. The gas was used wastefully because of its abundance and the general impression that the supply was unlimited. This condition was corrected to some extent by installing regulators and meters and other appliances.

When a gas company decides to explore in any given field or territory the first step is to send out representatives to obtain a block of leases. The leases are between the company and the owners of the land, generally farmers. The companies pay rent to the owner of the land for the period between the date of the lease and commencement of operations, sometimes called "delay rentals." If gas is discovered and taken out there is a rental or royalty paid to the owner.

Leases are generally secured over a block of territory to protect wells when drilled from being drained by adjacent operations. A derrick or rig is built on a spot decided upon, generally by the engineering department, if there is one, and a well drilled. The method of drilling is utilizing the force of a body falling through space; in other words, heavy tools, or drills, are repeatedly raised by means of pulleys, ropes, etc., and dropped. These tools or drills or bits, with their stems and jars, weigh perhaps two tons. With each impact of the bit the hole is deepened.

In some districts, as in Louisiana for instance, a different method of drilling, to-wit, rotary drilling, is employed, but the object is always to make a hole in the ground down into the gas bearing sands.

Gas fields are depleted steadily. From this rule there is no variation. This process has been noted in every field which has ever been discovered. As has been indicated above, gas exists in the sands in limited quantities and every foot of gas taken out decreases the supply available by an equal amount.

Gas is not always found at the same distance beneath the earth's surface. Gas has been encountered

in Pennsylvania at a depth of 6,500 to 7,000 feet. However, it is generally found at from 3,000 to 3,500 feet below the surface in Southwestern Pennsylvania and Northern West Virginia. The cost of drilling a well runs between $15,000 and $18,000, depending in some measure on the depth to which it is necessary to drill. When gas is found in a well it is usually shut in until a market can be found for it or it can be connected to the pipe lines of a distributing company.

The rock pressure of gas wells varies greatly in different localities and in different sands. It is generally defined as the pressure which will accumulate in a well when the gate or valve at the top of the well is closed and no gas is taken from the well. In other words, it means the pressure at which the gas is confined in the rock.

Storage of gas is possible to perhaps a small extent; that is, limited quantities of gas may be stored in special holders built for the purpose, but one difficulty is that a holder cannot be built that will hold sufficient gas that will make it of any benefit to the trade. A holder containing 10,000,000 cubic feet of gas would be an unusually large one, and that would permit the gas company to operate only a few hours. As a consequence, companies producing gas are constrained to market what gas they obtain quickly, and to secure leases on territory surrounding producing wells in order to prevent other operators from draining the gas from under their leases.

Where wells are drilled in the same territory it is the tendency of the rock pressure in the respective wells to equalize itself throughout a fairly well operated field, although this result might depend also upon the porosity of the sand. Therefore, as a practical proposition, it is

advisable for a gas company, which is operating in a territory where other companies are conducting operations, to drill enough wells in that territory to get its share of the gas as soon as it can.

Gas possesses the property of limited self-trans mission, and it usually leaves the well at a pressure sufficient to transmit itself through pipe lines for some distance. Artificial means are employed by the gas companies in order to create a pressure in the lines sufficient to transmit it to distant points. For this compressing stations are employed.

The pressure of gas in the lines is reduced in direct proportion to the distance which it has traveled. It is, therefore, obvious that a point will be reached in the lines where the pressure is insufficient to carry the gas to consumers. This difficulty is overcome by means of compressing stations. The "compressing stations take the gas out of the low pressure, squeeze it or compress it so that it reaches a considerably higher pressure, and is then discharged into what is styled the main lines, main transporting lines." "Compressing stations" reduce the volume of gas in the chamber of the compressor, so that in accordance with well recognized physical laws the gas is raised to a high pressure by being reduced in volume. Compressing stations are placed at intervals along the lines wherever necessary; that is, wherever such a distance had been traversed that the pressure has become too low for proper or further transmission of the gas.

In general, the systems of the gas producing and distributing companies consist of gathering lines, which are lines leading to the main transportation lines; main

transportation lines, compressor stations; further transportation lines, leading to other compressor stations or to the various communities where gas is supplied by the companies, and the distributing systems in those communities, by which is meant a system of line regulators and curb boxes through which the gas is reduced in pressure and fed directly to the consumer's home or plant.

Compressing stations aid materially in the transmission of gas. It is not possible, however, to estimate just what distance the gas would go without compressing stations. In winter when the demand for gas is very heavy, many shortages are avoided by the use of compressing stations.

They serve more than one purpose. It has been explained that they are used to increase the gas pressure in order to permit its transmission for a greater distance. The stations are also utilized, however, in this way: By the installation and operation of compressing stations the pressure in the line between that station and the mouth of the gas well is reduced. Now, the lower the pressure at the mouth of the well, or in the lines leading from the well, the larger will be the amount of gas discharged from the well, since any discharge from the well must operate against whatever the resisting pressure is at the mouth. If, therefore, the latter is reduced, the result is a greater production of gas from that particular well. The operation of any compressing station affects the gas as to its pressure throughout the entire system. The gas passes back and forth through the pipe line system according to the point of lowest pressure upon the line.

HARRY A. QUAY.

Pages 153-155:

"Q. Very well, then, using the nomenclature of the trade, the effect is to reduce the pressure in the suction lines, so as to enable the gas from the oil sands to pass up through the gas sands, and pass up to a point where the compressor station will affect that gas, and then compress it in the compressing cylinders, so that when it is discharged into the transmission lines, it has an initial pressure of the amount to which it has been compressed by the compressors, so as to pass through those transmission lines to some other point distant therefrom?

A. That is correct. That is the effect the operation of the station has on the gas."

Compressing stations were first installed some 30 years ago in fields where gas had commenced to decline. The first models of stations have been very much improved.

If two companies are operating in any one gas territory, the installation by one company of compressing stations practically necessitates their installation by the other company, since the first company would be enabled by means of the stations to get more gas, other things being equal, than the company without such stations.

Assuming an initial rock pressure of 100 pounds constantly maintained, an outlet pressure of 25 pounds at which to deliver the gas to a distributing company, a 10-inch pipe line 100 miles in length would deliver in 24 hours 3,144,000 cubic feet of gas,

the same line 25 miles in length with the same pressures as above would deliver in 24 hours 8,640,000 cubic feet of gas.

The stations materially increase the distance through which gas can be transmitted. Without their operation thousands of wells today producing gas in West Virginia would long ago have been abandoned. They "permit the gas to come from the wells and go to market that otherwise would not have gone to market at all." (John B. Corrin—329 and 330).

In no case of which the witness (Mr. Corrin) knew had the Hope or Reserve Companies ever resorted to suctions or to vacuums on their wells. Other companies, however, may have done so. It is possible by means of compressor stations, however, to create a vacuum and to use said vacuum to extract gas from a well at a point below atmospheric pressure. The creation of a vacuum at the mouth of a well is merely the reduction of the pressure at that point below atmospheric pressure, the effect of which is to draw the gas up out of the well. The gas business will eventually arrive at a point where suctions or vacuums will have to be made use of in order to get as much production as possible from the lines. Much gas was wasted during the years 1892 to 1896 which had been discovered in drilling for oil.

MARTIN B. DALY.

Pages 579, and 581:

The consumer located nearest to the point of distribution between the high and low pressure gets a better supply of gas than those furthest away. The pressure is

lessened to a certain extent by each one taking out a little gas. It may not be noticeable until you get a considerable distance away, but it is a natural result that the nearer to the distributing point from the high to the low pressure, the greater the pressure to the consumer. If there were adequate pressure to go around, the man getting lower pressure would be served as well as the man getting higher pressure; but if there is a demand and gas is taken out of the wells to the extent that there is not enough left naturally the man farthest away does not get any service. In times of shortage of supply the consumers nearest the wells or source of supply have the better service.

SAMUEL S. WYER.

Pages 865 to 876:

> "* * * gas is a fluid composed of a large number of molecules which are vehicles of energy continually in motion, and having an inherent tendency to get farther and farther apart. The range of motion of the molecules is limited only by the volume of the closed containing vessel in which they constantly move to and fro. Every molecule possess the inherent power of energy and is eternally energetic within itself—that is the molecules are in a state of constant bombardment against each other and against the sides of the containing vessel. The most distinguishing characteristic of gas is its universal property of completely filling an enclosed space."

The term "natural gas" is used to denote a gas that is highly combustible and made by a secret process

of nature. Like water, it always seeks the lowest level; confined gas always tends to expand to lower pressures and this inherent tendency is the basic cause of all gas flow. Invariably gas flows in pipes or underground reservoirs from between openings of higher to openings of lower pressure and invariably this flow is accompanied by a decrease in pressure. The volume of any given mass of gas is inversely proportional to the pressure.

An illustration of one of the fundamental features of natural gas transmission, and one of the fundamental principles on which the whole transmission problem is predicted, is afforded by Pennsylvania Exhibit No. 35, appearing at page 1577, offered at page 867, which is a diagram showing that raising the pressure of a given mass of gas from 4 ounces per square inch to 300 pounds per square inch contracts the volume of that gas from 1,000 cubic feet to 46 cubic feet.

Given the thickness of a gas bed or sand, its degree of porosity, the limits of the gas pool and the rock pressure, a rough estimate might be made as to the amount of gas that is stored under ground. In no way, however, is such estimate to be depended upon as accurate. Furthermore, there is no way of determining accurately the degree of hardness or porosity of the gas sand or rock under any given area.

Fields drilled within 500 or 1,000 feet of each other display great variations in the amount of gas obtainable from each respective well. This is a common phenomenon. The only way of computing the potential productivity of a well is by actually drilling and testing it. The supply of gas produced by any given well is not directly proportionate to the rock pressure. Natural gas is

severed rom the soil in two different steps. After the well is drilled the first step is to place what is known as a packer at or near the bottom of the well, and the second step is the delivery of the gas into the well discharge line: Exhibit 36, offered at page 870, appearing at page 1578—diagrams of mechanical devices employed in first severing the gas from the soil, which merely means the puncturing of the gas bearing sand and affording the gas an outlet, and, second, bringing the gas under control by means of gates or valves and affording it a further outlet to the transmission lines of the Company.

See Pennsylvania Exhibit 37, offered at page 871, appearing at page 1579. This diagram shows how natural gas from West Virginia is directly transmitted to the consumer in another State. It shows the transmission of gas from the gas well to the gas measuring station in field; thence to the gas compressing station; thence to the gas cooling basin; thence by the main transmission lines to the gas measuring station at the gates of the various distributing plants where it is measured and then delivered to the medium pressure regulator; thence to the low pressure regulator and into the service line, and thence into the lines of the consumers.

Pennsylvania Exhibit No. 38, offered at page 874, appearing at page 1580, is a diagram showing the action of a natural gas compressor.

Page 876:

"Q. And to bring out—in view of the objection that has been made—the purpose of this distinction [between the terms 'transmission' and 'transportation'

and their respective significations]: if there are being transported over a line of railway a thousand cars of coal, when you take out in the State of West Virginia 100 of those cars, it does not affect the delivery of the other 900 cars, does it?

A. That is correct.

Q. But if you take out of the line through which gas is being transported, out of a thousand feet thus being transported, 100 feet before it leaves the line of the state of West Virginia, what is the effect on the other 900 feet which was being transported through that line?

A. You immediately disturb the pressure conditions, and thereby alter the flow capacity of the line—that is, the diversion of natural gas from a transmission line is not merely a separation of the commodity from the line, but by virtue of that separation, you get an inevitably disturbed pressure condition, which, if the amount of gas diverted is large enough, may annihilate the service at the extreme end of the line to the ultimate consumer.

Q. Even though the amount of gas taken out would not be the entire capacity of the lnie?

A. That is correct."

Page 908:

"Q. If the gas going from the well into the field to the ultimate consumer ever at rest?

A. It is not."

HARRY A. QUAY.

Page 18.

"* * * Natural gas in our lines is never at rest."

Page 909:

There is no such thing as the regeneration of natural gas in the sands from which it has once been removed.

Page 910:

"Q. Has the capacity of the transmission lines through which the gas is at the present time being transmitted for service in other states than West Virginia, been computed and fixed and arranged for the purpose of supplying that service?

A. It has."

Pages 1419 and 1420:

"A. In most cases the gas in the transmission line always goes in one geographical direction. There are, of course, a number of cases in West Virginia, and more in West Virginia than in all other parts of the United States combined, where there is a reversal of gas flow in the same transmission line; the gas may go in one direction part of the day, and in a diametrically opposite direction during another part of the day, but of course, in one direction only at one time, as contrasted with the constant current of trains going in both directions on railroads."

There is no way of calling into use extra equipment to carry the commodity transported in the case of pipe lines as there is in the case of railroads, where extra trains may be put on to handle heavy traffic or overloads. The variation in the transmission of gas between peak loads and normal loads is on an average of 700 per cent.

In transmission agencies, other than gas lines, such as railroads and traction lines, delays in rendering service are possible and universally practiced. For instance, a railroad can start a train one hour behind its schedule in case of congestion; natural gas service, however, must be instantaneous, for gas needed to cook breakfast cannot be furnished an hour late as the supply would then be useless.

Because of the uncertain life of gas wells, it is practically financially impossible for gas transmission companies to build additional lines to take care of all common carrier gas that might be offered them in view of the large indebtedness that would have to be incurred without any prospect of a fair return.

Another feature which renders a distinction or classification of pipe lines as common carriers unfeasible is the unsurmountable difficulty offered by the great fluctuations from normal to peak load, in that the pressure which can be placed on the gas is limited by the strength of the pipe lines.

Page 1421:

"The market for natural gas is not fixed, but varies largely with the season of the year, time of day. * * *"

It is impossible to forecast what the demand on the gas supplied by the companies by their domestic or industrial consumers will be at any given time.

Leakage in transit must be taken care of.

Natural gas cannot be readily stored.

Page 1422:

Gas being volatile and invisible cannot be transported or identified or measured in bulk as coal or oil or other commodities, and apparatus for measuring gas in large quantities is expensive to install and operate.

Pennsylvania Exhibit No. 55, offered at Page 1442, appearing at page 1619 (Exhibits Vol. 1): "Natural gas production, service and conservation. This exhibit embraces on pages 30 to 34 of the discussion heretofore cited.

JOHN B. CORRIN.

322—324:

The South Penn Oil Company was the Pioneer operator in West Virginia for oil. Its primary object in going there was to operate for and produce petroleum, but in its operations they got some dry holes and they got a lot of gas wells. The great problem was what to do with the gas wells. Many of the smaller operators abandoned these gas wells, but the South Penn Oil Company retained them and endeavored to get a market for gas around West Virginia. A company was formed called the Flaggy Meadow Gas Company to take over these gas wells and supply small West Virginia towns with gas, and also to supply the drilling wells and pumping wells. About 1894 the same owners that owned the South Penn and the Flaggy Meadow Companies formed the Mountain State Gas Company to produce natural gas and supply it to some of the river towns like Sistersville and Parkersburg. It was soon found, however, that the gas wells were accumulating so fast, both from the South Penn, Flaggy Meadow and Mountain State companies, that another market had to be sought, and the

Hope Natural Gas Company looked to Ohio and Pennsylvania for a further market. In Harrison and Lewis Counties, which territory the South Penn Oil Company had acquired, there was another heavy operator named T. N. Barnsdall, who had drilled quite a lot of territory for oil and had found gas. This territory of Mr. Barnsdall's was interlocked with the territory of the South Penn Oil Company.

In 1898 the Hope Natural Gas Company was formed, and the territory that the South Penn had held was transferred to the Hope Natural Gas Company. The territory of the Hope Company interlocked with Mr. Barnsdall's territory, and both were supplying gas to quite a number of towns in Ohio. At this time it was decided to join the interests of the Standard Oil Company and the Barnsdall interests in Harrison and Lewis Counties and form the Reserve Company and transport gas to Ohio, so that the Standard Oil Company interests might have a share of gas out of this field that was being transported to Toledo, and the Barnsdall interests might have their share of the gas transported to Ohio. The Barnsdall interests were later transferred to the Union Natural Gas Corporation.

The Connecting Gas Company was formed by the same interests that formed the Reserve Gas Company, and was intended to transport gas from the Ohio River or the division line between the states of Ohio and West Virginia to two points in Ohio, one of which is called Sugar Grove, where the Barnsdall interests or the Union Gas Corporation was to take its gas. The other point was at Wheeler, where the Standard Oil interest was to take its share of gas for transportation to Toledo.

The parties who were at that time interested in

the Northwestern Ohio Natural Gas Company transferred their interest in that company to the people who now own the Ohio Fuel Supply Company. This transfer was made in about 1910 or 1911.

Page 332 to 333:

(Note: The companies referred to below are the South Penn Oil Company, the Flaggy Meadow Company, the Mountain State Company, the Hope Natural Gas Company, the East Ohio Company and the Peoples Gas Company.)

"Q. These companies which you have mentioned were to a considerable extent, were they not, the pioneers that invested millions, and tens and hundreds of millions of dollars, in finding markets for the use of this gas that was being developed at that time in the State of West Virginia?

A. They certainly were the pioneers, there is no question about it; and if it hadn't been for these companies or companies similar to them, with a good backing of capital, why, I don't think that West Virginia would have been advanced to where it is to-day. * * *"

CHARLES M. SNAITH.

(Defendant's Witness—Cross Examination).

Page 1260.

The operations in Lewis, Braxton and Gilmer Counties by the early companies or individual operators in West Virginia, even though they resulted in the discovery of gas, were originally commenced for the pur-

pose of oil development, and as a matter of fact it was considered a misfortune when a prospector looking for oil discovered gas instead.

Page 1265.

About 1900, when gas was first found in Lewis County, independent producers flocked to that territory, hoping, however, to discover oil and drilling for it and sometimes finding gas instead although the discovery of gas was not the object of their operations.

Pages 1269, 1270:

Independent producers, drilling for oil and finding gas instead, regarded this as an unfortunate circumstance inasmuch as a market for the gas was not at that time available. This refers to independent operators in West Virginia.

PARKE BOWSER.

(Defendant's witness—Cross Examination).

Pages 1331, 1332:

The small independent producers of gas have no pipe line systems of their own, their property having been developed merely by reason of their having drilled test wells for oil and struck gas and then tried to obtain markets for gas. At such times when gas was struck in testing for oil the pipe line companies would afterwards come in and furnish the market for the gas.

Pages 1335, 1336:

The witness is a small producer. His purpose, as well as that of the majority of independent producers,

in taking up leases and going out for the purpose of drilling wells, was to find oil and not gas. However, when gas is discovered, although this is incidental to oil operations, an effort is made by such independent producers to find a market for the gas found. Independent producers do not as a rule set out deliberately for the purpose of obtaining a block of territory for the production of gas alone. As a matter of fact, independent producers were wont to consider discovery of a supply of natural gas as worse than a dry hole because of the trouble of plugging same.

F. C. DE[illegible]ERICKS.

(Defendants' witness- Cross Examination)

Pages 1351 to 1354:

The South Penn Oil Company and the Southern Oil Company, which was one of Barnsdall's interests, operated originally in Tyler County, Preston County and Doddridge County, West Virginia. They took up a number of leases in that territory which were acquired primarily for the purpose of obtaining oil and not for obtaining gas although the leases covered both subjects. The companies, however, were originally oil development companies, and in those days natural gas was not regarded as a valuable find.

III.

THE LATER DEVELOPMENT OF THE NATURAL GAS FIELDS OF WEST VIRGINIA WAS MADE BY THE GREAT INTERSTATE TRANSPORTING COMPANIES FOR THE PURPOSE OF OBTAINING GAS TO BE TRANSMITTED TO MARKET IN OTHER STATES, WHICH MARKETS HAD BEEN SOUGHT SO AS TO GIVE VALUE TO THE NATURAL GAS PRODUCED IN WEST VIRGINIA.

HARRY A. QUAY.

Pages 18-20, 20-21:

It was about 1888 that the Manufacturers Company entered West Virginia and began operating there, and this was just a little after the propensities and potentialities of natural gas had been discovered.

At the present time the gas companies are supplying large and small communities located anywhere near their lines with natural gas.

Page 63-67:

The Manufacturers Light & Heat Company, which has been in the natural gas business since 1885, was incorporated under the laws of Pennsylvania, and has been engaged in the production and transportation of gas in West Virginia since 1902. By purchase or merger they secured the Tri-State Gas Company, the Wheeling Natural Gas Company and the Fort Pitt Company, which were operating in West Virginia in the Proctor, Hundred and Sedalia Fields and in certain other fields in Pennsylvania and Ohio.

Page 25:

"Q. Do you know for what purpose these investments were made with reference to the use of gas—as to where it was to be transported and sold—as to the Manufacturers Light and Heat, and as to all of these companies?

A. Speaking for the Manufacturers Light and Heat Company, this money was expended, and the developments made, for the purpose of supplying all of its customers as much gas as it could possibly secure for their use.

Q. And what as to the other companies, if you know?

A. Those that I am familiar with (Hope Company, Philadelphia Company, Ohio Fuel Supply Company, United Natural Gas Company), it was the same condition."

JOHN B. CORRIN.

Pages 210 to 211:

There are no known fields tributary to the cities and towns now being supplied by the large companies with natural gas which are not being developed and occupied by the various gas producing companies. Practically all the big operating companies and many of the smaller have been conducting pioneer development for the purpose of discovering new gas deposits or fields, which development work is known as "wild-catting."

Pages 319-320:

The Connecting Gas Company and the River Gas Company do not purchase any gas in West Virginia but secure all their West Virginia gas from the Hope Company, and, as has been testified to previously, have been organized for the purpose of furnishing the Peoples Gas Company with gas.

Pages 322-323:

The Reserve Company was formed by joining the Barnsdall interests in Harrison and Lewis Counties, and the Standard Oil Company interests, in order to transport gas to Ohio.

Page 325:

The Eastern Ohio Natural Gas Company was organized as a part of the operations of the Hope Natural Gas Company as an outcome of the operations of it and of the South Penn Oil Company in an endeavor by those interests to obtain an outlet for the gas they had secured and expected to secure in West Virginia. The East Ohio Company, supplying Cleveland, Canton, Akron and thirty or forty other cities in Ohio, afforded the market they desired to find for that gas.

Pages 331-332:

At the time of the organization of these companies gas was plentiful in West Virginia and the State did not afford a sufficient market for the gas available. It was necessary to find markets quickly and the organization of the companies above mentioned was for the purpose of seeking new markets in other States.

Pages 340-341:

The South Penn Oil Company, operating in West Virginia, had discovered large supplies of gas and the Flaggy Meadow Gas Company and the Mountain State Gas Company were organized for the purpose of "taking care of" the gas discovered by the South Penn; that is, finding a market for that gas.

H. A. WALLACE.

Pages 390-391 (Cross-examination):

Some of the predecessors of the United Fuel Gas Company, that is, some of the companies later taken over by that company, had built lines and conducted their operations for the purpose of supplying gas to consumers in West Virginia before the construction of the line to furnish gas to Cincinnati or to Louisville. The lines and systems of these predecessors were later acquired by the United Fuel Gas Company and made a part of their system.

JOHN B. TONKIN.

Pages 424-427:

In 1903 the Hope Natural Gas Company had a surplus of natural gas. The Peoples Natural Gas Company had the market but not the gas, consequently the Standard Oil Co. of N. J. purchased the Peoples Company. Immediately after the purchase the Hope Company started to lay a 16-inch line from Hastings Station up to Brave, Pennsylvania, a 16-inch line from Wilsonburg, Harrison County, West Virginia, also to Brave, Pennsylvania. The People Company at the same time started to build a 20-inch line from Pittsburgh to Brave to get this gas. The line was about 60 miles long.

The Hope Company was originally organized for the purpose of supplying the East Ohio Company with gas. The Standard Oil Company of New Jersey was the parent organization, acting through another subsidiary, the National Transit Company. Lines were built by both the Hope and East Ohio companies from West Virginia to Akron, Ohio, and later, in 1902, a line was built paralleling this line, and continuing through to Cleveland, Ohio. Later on an 18-inch line was built by the Hope Company from Hastings across the river near Clarington, Ohio, some ten or fifteen miles distant from the original river crossing, and also continued through to Cleveland. Later on a 20-inch line and another 18-inch line were built.

Pages 424-425:

In 1903, when the Standard Oil interests purchased the Peoples Company, the Hope Company had a large surplus of gas and the reason for the purchase was their desire to market this gas in States other than West Virginia. At this time the Peoples Company also had franchises in Pennsylvania and the opportunity to market large quantities of gas there, especially in the vicinity of Pittsburgh. The Hope Company, on the ther hand, had a large amount of gas for which it was otherwise unable to find a market.

Pages 614 to 617:

Statement showing acreage, gas wells and gas production in Pennsylvania and West Virginia, the number of producing gas wells, number of wells drilled, number of consumers,—domestic, industrial and other companies,—and the amount of sales,—domestic, industrial and other companies, fuel used in pumping stations, and

pumping and drilling wells, for the years 1910 to 1919, inclusive, of the Peoples Natural Gas Company: The statement for 1918 and 1919 is as follows:

	1918	1919
Operated Acreage—Acres	82,277	85,819
" " Cost	283,773.58	374,382.22
Unoperated Acreage—Acres	310,461	302,559
" " Cost	179,304.29	167,966.53
Gas Produced—M Cu. Ft.	13,850,362	12,223,833
Gas Purchased (Penna.) M Cu. Ft.	1,269,314	6,948,119
" " (W. Va.) M Cu. Ft.	18,209,928	6,496,994
No. Producing Gas Wells	1,042	1,108
No. Wells Drilled	146	130
No. Consumers—Domestic	75,697	79,112
" " Industrial	206	227
" " Other Companies	5	5
Amt. of Sales, Domestic—M Cu. Ft.	9,715,074	9,654,042
" " " Industrial— "	**18,377,988	12,264,921
" " " Other Cos. "	5,236,542	3,749,983

** Includes Gas for Own Operations, as follows:

Fuel Used at Pump Stations, etc.	1,283,737	574,062
Pumping & Drilling Wells (Est.)	550,000	250,000
Total Gas for Operations	1,833,737	824,062

W. W. FREEMAN.

Page 456:

The investments made by the Columbia Company in West Virginia and by the Cincinnati Gas Transportation Company in laying gas lines was for the express purpose of bringing natural gas from West Virginia to the city of Cincinnati and the surrounding territory.

JUDGE REED.

Pages 487-488:

The first gas company acquired in West Virginia by the Philadelphia Company was the Fairmont and Graf-

ton Gas Company in 1905. The latter is now known as the Pittsburgh and West Virginia Gas Company. The Philadelphia Company also acquired in 1913 the stock of the Monongahela Natural Gas Company, the title actually passing, however, to the Pittsburgh & West Virginia Gas Company. In 1896, about the time of the organization of the Philadelphia Company in West Virginia, that company acquired 6,000 acres of gas in Tyler County, West Virginia, and about 34 miles of pipe line in that County, and 76 miles of pipe line in Green County. About 1900 the Philadelphia Company bought the Union Gas Company of McKeesport.

Pages 521 to 524:

Sometime in 1901 the Philadelphia Company acquired 30,693 acres of leases of productive gases in Lewis and Gilmer Counties, West Virginia. Some insufficiency of gas supply had manifested itself as early as 1891, and Mr. George Westinghouse, President of the Philadelphia Company, was considering the necessity of extending lines of the company southward and of establishing a fuel gas plant. By 1894 Brunot Island had been bought for the purpose of erecting such a plant. The gas business was increasing fast and it was necessary to get more gas. Therefore, subsequent to 1894 the Philadelphia Company gradually extended its own acquisition of other fields and other territory in a southward direction.

Page 486:

At the time the Philadelphia Company commenced operations in West Virginia, the Pennsylvania gas fields were becoming exhausted and insufficient to supply the consumers of the Philadelphia Company in Pennsylvania. The Company proceeded to lay lines in

West Virginia and extended their business into Pennsylvania territory for the purpose of supplying West Virginia gas there.

MARTIN B. DALY.
(East Ohio Gas Company)

Page 582:

"Q. Now, from your Ohio Exhibit No. 1 give the extent of your company's main lines and connecting lines that were designed and constructed and are being operated for the purpose of transporting and distributing natural gas from the Hope Natural Gas Company in West Virginia.

A. These pipe lines, with the exception of the Imperial line running from Youngstown to the southeasterly corner of Mahoning County, being an 8-inch pipe, and the pipe line from Ashland County to Barberton, a 12-inch pipe line, were all constructed with a view of bringing gas from West Virginia and distributing and delivering it to the various municipalities. The line known as the Imperial lines was formerly bringing gas into Pennsylvania. That is no longer available. The quantity was very small. A line from Loudonville to Barberton is transporting gas now from our producing fields; otherwise all the pipe lines were constructed with a view of transporting gas from the West Virginia fields.

L. B. DENNING.

Pages 664-665:

The cost of the main lines of the Ohio Fuel Supply Company for the purpose of transporting and distributing West Virginia gas in Ohio is as follows:

"Line E from the Ohio River to Wheeler Station at Sugar Grove; used exclusively for the transportation of gas out of West Virginia, 63.9 miles in length, 18-inch in size, cost $879,902.96.

Line D from Wheeler Station to Valley Crossing just to connect into the Columbus feed system at Valley Crossing, 12-inch, 33.26 miles long, cost $280,043.91.

Line F from the junction point on Line E neat Chester to Pomeroy, and extending beyond Pomeroy to Gallipolis and into Jackson County, and consisting of part 6-inch and part 4-inch, 61.19 miles long, used in transportation of West Virginia gas exclusively, cost $226,450.11.

Line A from Columbus to Norwood, known as the Cincinnati 18-inch, which was not built exclusively for the transportation of West Virginia gas, but which we estimate as devoted fifty per cent. of its cost to the transportation of West Virginia gas, being 18-inch in size, 54.30 (?) miles long, cost $762,177.56. * * *"

Page 665:

The Northwestern investment for West Virginia gas represents their entire investment, or $6,112,730.48.

The Northwestern has some slight production in Northern Ohio, but that is small and limited, and for all general intents and purposes it is correct to say that the entire investment of the Northwestern is devoted to West Virginia gas.

Pages 665-666:

"Q. And originally those main transportation lines from the Sugar Grove Station through the State of Ohio to the Northwestern were laid for the purpose solely of transporting West Virginia gas to the Toledo country?

A. The 18-inch line of the Ohio Fuel Supply Company extending from Wheeler Station southeasterly to the Ohio River, and connecting with the 18-inch line of the United Fuel Gas Company, was laid, built, and the investment made for the express and only purpose of procuring and transporting gas from West Virginia. The line of the Northwestern—its transmission system—was built and laid exclusively and for the sole and only purpose of obtaining gas from West Virginia.

Q. Then, Mr. Denning, the lines which you have just described, giving the cost thereof and the location, with the exceptions you have noted, both as to the Ohio Fuel Supply Company and the Northwestern Ohio Natural Gas Company, were designed, constructed, and are being maintained for the purpose of handling and marketing West Virginia gas?

A. Yes."

Page 712:

"The Cincinnati line was built as a part of the plan, relying on obtaining gas from West Virginia, as I said this morning."

Pages 683 to 685:

The Ohio Fuel Supply Company, organized in 1902, was substantially a consolidation of a number of smaller

companies operating in Southern Ohio, including the Mt. Vernon Natural Gas Company, the United Gas Company, the Corning Natural Gas Company, the Roseville and Crooksville Gas Company, the Bremen and Rushville Gas Company and the Great Southern Gas and Oil Company, all of which had been producing and distributing natural gas. After being taken over, the smaller companies were all consolidated into one service, and the Ohio Fuel Supply Company proceeded to extend its lines. About 1903 or 1904, the Ohio Company bought the Federal Gas and Supply Company in Columbus with its fields in the Sugar Grove district and with a 12-inch line extending from Sugar Grove up to Columbus. In 1907 an 18-inch line was constructed from Columbus to Norwood. In 1909 an 18-inch line was constructed from Sugar Grove to the Ohio River to connect with the line of the United Fuel Gas Company bringing gas from West Virginia.

The Ohio Fuel Supply Company originally constructed the entire line into West Virginia and into the West Virginia field and afterwards sold it to the United Fuel Gas Company. In 1910 the Ohio Fuel Supply Company acquired the Ohio Southern Gas Company, embracing the territory or towns in Jackson and Vinton Counties. In 1917 the company bought the property of the Central Contract and Finance Company, which embraced acreage and producing wells in Vinton County, Ohio, and a pipe line extending from Sugar Grove to Sidney. The Company first received gas from West Virginia when the 18-inch line was completed in 1909.

EUGENE P. WHITCOMB.

Pages 781-782:

"Q. Now, Mr. Whitcomb, to what extent has your companies lines been designed and constructed and being maintained for the purpose of receiving and marketing West Virginia gas?

A. The constructing of a 16-inch line north from Sugar Grove, connecting with the intake of Bangs Compressing Station in Knox County, Ohio, was laid exclusively for the transportation of gas to our Central and Northern Divisions. The construction of the 18-inch Sugar Grove-Dayton line, a distance of about 84½ miles to the City of Dayton, with an extension of about 78 miles of 16-inch line to the City of Muncie, Indiana, together with its branch line connections to cities and towns in the State of Ohio and State of Indiana, principally the City of Dayton in Montgomery County, Ohio; the City of Anderson in Madison County, Indiana; New Castle in Henry County, Richmond in Wayne County, Indiana, and Greenville in Darke County, Indiana, was laid particularly for that purpose and for no other.

Page 1726:

LOGAN NATURAL GAS & FUEL COMPANY AND AFFILIATED OHIO GAS COMPANIES.

Summary of Investment for Delivery of Gas From West Virginia.

Pipe Lines of Towns of Other Companies:

Line No.	From	To		Physical Property.	Overhead Charges.	Cost of Attaching Business	Total
E	Sugar Grove	Muncie, Indiana	16 and 18"	$1,996,783.89	$439,292.44	$243,607.63	$2,679,683.96
E- 7.	Line E South	Dayton	12"	22,524.66	4,955.43	2,748.01	30,228.10
E- 8.	" " "	"	10"	19,404.91	4,269.06	2,367.40	26,041.39
E- 9.	" "	Richmond	10"	93,885.11	20,654.73	11,453.98	125,993.82
E-10.	" "	New Castle	8"	82,752.99	18,205.65	10,095.87	111,054.51
E-11.	" "	Anderson	10"	137,354.13	30,217.92	16,757.21	184,329.26
E-12.	" "	"	8"	12,043.61	2,649.50	1,469.32	16,162.52
E-13.	" "	Fairmont	12"	192,202.37	42,284.52	23,448.69	257,935.58
E-14.	" E-13	North of Fairmont	10"	17,699.20	3,893.82	2,159.30	23,752.32
E-17.	" E	Ohio Fuel Company	8"	172.43	39.47	21.89	240.79
E-18.	" E-13	Private Line	10"	69.79	15.35	8.51	93.65
E- 5.	" E	Mt. Sterling, Ohio	10 and 12"	14,962.54	3,291.76	1,825.43	20,079.73
E-19.	Sugar Grove Sta.	Line E		991.88	218.22	121.01	1,331.11
E-20.	" " "	" "		991.89	218.22	121.01	1,331.12
		Total		$2,591,846.40	$570,206.20	$316,205.26	$3,478,257.86

1727—Pipe Lines to Own Towns:

Line No.	From	To			Physical Property.	Overhead Charges	Cost of Attaching Business	Total
E- 2.	Line E	Amanda, Ohio	2"	.....	47.64	10.48	5.81	63.93
E- 4.	"	Ashville, "	3"	.....	4,391.96	966.23	535.82	5,894.01
E- 3.	"	Circleville, Ohio		.....	51,708.16	11,375.80	6,308.40	69,392.36
C	Sugar Grove	Chillicothe	8"	.....	238,828.31	52,542.23	29,137.05	320,507.59
C- 2.	Line C	Logan	6 and 6"	.....	52,857.14	11,628.57	6,448.57	70,934.28
C- 3.	"	Rockbridge	2 and 3"	.....	548.97	120.77	66.97	736.71
C- 4.	"	Laurelville	2"	.....	1,037.25	228.20	126.55	1,392.00
C- 5.	"	Adelphia	2"	.....	748.95	164.77	91.37	1,005.09
C- 6.	"	Kingston	3"	.....	12,233.80	2,691.44	1,492.52	16,417.76
C- 7.	" C-6	Hallsville	2"	.....	30.07	6.62	3.67	40.36
C- 8.	" C-2	Logan Regulator		.....	28.15	6.18	3.43	37.76
M	Gloucester	Beaumont	6"	.....	62,245.72	13,694.06	7,593.98	83,533.76
M- 2.	Line M	Athens	3"	.....	3,827.82	842.12	466.99	5,136.93
M- 3	"	Chauncey	2"	.....	74.21	16.33	9.06	99.60
A	Sugar Grove	Newark Connection	16"	.....	339,474.41	74,684.37	41,415.88	455,574.66
A- 4.	A-6	Newark, Ohio	8"	.....	5,813.19	1,278.90	709.21	7,801.30
A- 5.	"	" "	6"	.....	5,215.00	1,147.30	636.23	6,998.53
A- 6.	Line A Toward	Newark	10"	.....	33,986.61	7,477.05	4,146.37	45,610.03
		Total		.....	$813,097.36	$178,881.42	$99,197.88	$1,091,176.66
Sugar Grove Compressing Station				.....	$549,071.00	$120,795.62	$66,986.66	736,853.28

Tabulated between pages 784-785.

Page 769:

"THE LOGAN NATURAL GAS & FUEL COMPANY.

OHIO AND INDIANA.

TRANSMISSION SYSTEM PIPE LINES.

4	inch	71.70 miles
$5\frac{3}{16}$	"	8.13 "
$5\frac{5}{8}$	"	1.38 "
6	"	109.05 "
$6\frac{5}{8}$	"	2.57 "
8	"	158.61 "
10	"	148.87 "
12	"	130.41 "
16	"	161.76 "
18	"	84.37 "
Total Transmission Pipe Lines		876.82 "

J. W. McMAHON.

Page 719:

"Q. Tell its starting history. (of the Northwestern Ohio Natural Gas Company)?

A. At that time they produced the gas from northwestern Ohio. They acquired thousands of acres of land in fee and by lease throughout the counties of Wood, Hancock, Seneca and the northwestern counties of Ohio. They drilled thousands of wells and piped the cities and supplied natural gas to the consumers. About 1900, 12 years after they began exploiting for gas, the gas supply of northwestern Ohio was becoming exhausted. The gas was found in the Trenton rock field only in northwestern Ohio and the oil was also found in that same formation, and in drilling for oil, which was the most valuable commodity at that time, they drilled so many thousands of

wells that the gas was permitted to escape and did escape into the air. It created a back pressure upon the oil wells and they let it out. Efforts were made at that time by the passage of laws by the legislature of this State to prohibit the wastage of gas, but those efforts did not seem to prolong the life of the gas field a great deal, and it began to become exhausted very rapidly. At that time the City of Toledo was engaged in the natural gas business as a municipality. They bonded themselves I think for $1,500,000.00, which bonds are still outstanding and not paid, and went into the natural gas business. I believe the city of Fremont did the same, as well as Findlay,—the northwestern cities. But almost before the City of Toledo got to producing gas the field from which they expected to draw was about exhausted, and they went out of business; sold their lines practically for junk, I believe, and discontinued. The Northwestern Ohio Natural Gas Company then had two lines, one a ten-inch line and one a twelve-inch line running from the City of Toledo south to the then known gas fields of Ohio.

Q. In the counties which you have already named?

A. Yes, sir. They were confronted with a possibility of losing their entire investment, or getting gas elsewhere. They then entered into a contract with The Hope Natural Gas Company, whereby they were to lay a line or lines south from Tonkin Station, which was 38 miles from Toledo, to a point known as Sugar Grove, in Fairfield County, Ohio, where they were to connect with or receive gas from The Hope Natural Gas Company, which company, in turn, was to procure that gas from West Virginia."

Page 724:

"Q. And is it a fact that your company's lines extending southward from Tonkin Compressing Station to the Wheeler Compressing Station, a distance of A 160 miles, and being two in number were designed, constructed and have been operated exclusively for the purpose of conveying natural gas to the consumers of the company whom you have described?

A. Yes."

G. F. BATCHELOR.
Of the Natural Gas Company of West Virginia.

Page 744:

"As of December 31, 1919, the company held in Greene County, Pennsylvania, 9,042 acres of operated leases, 5,700 unoperated, total of 14,732 acres; in Washington County, Pennsylvania, 4,172 operated, 19,373 unoperated, total of 23,545; in Belmont County, Ohio, 7,296 operated, 20,279 unoperated, total of 27,575; Monroe County, Ohio, 105 operated, 32 unoperated, total 137 acres; in Marshall County, West Virginia, none operated, unoperated 12,146; in Ohio County, West Virginia, none operated, unoperated 130, making a total acreage in all the places of 20,615 operated, 57,660 unoperated, total of 78,275 acres."

J. K. ANDERSON.

Page 814:

Pennsylvania Exhibit No. 27 offered at page 814, and shown in Book of Exhibits at page 1566:

"Gas leases controlled by natural gas companies in West Virginia for the year ending December 31, 1919."

Wells owned Dec. 31, 1919, in West Va.....	8138
Wells in use Dec. 31, 1919, in West Va.....	3066
Unoperated acreage in West Virginia.....	2,017,388
Operated acreage " " "	708,602
Total unoperated and operated acreage in West Va.	2,175,606

Page 822:

Pennsylvania Exhibit No. 31, offered at page 822, and shown in Book of Exhibits at page 1568:

"Statement showing relation of operated and unoperated leaseholds of large interstate natural gas companies and small local intrastate gas companies doing business in the State of West Virginia, based upon reports to the Board of Public Works for the calendar year ending December 31, 1919:"

	Unoperated Acreage	Operated Acreage	Total	Unoperated	Operated
7 large companies	2,169,310	784,810	2,954,120	73.43%	26.57%
20 small intrastate gas companies	10,317	17,302	27,619	37.35%	62.65%

S. S. WYER.

Page 877:

The Fayette County Gas Company connects with the Hope Natural Gas Company, and receives from the Hope Natural Gas Company at the Wade Measuring Station gas which is here taken into Pennsylvania.

Page 969:

"The enforcement of the Act would place a premium on improvident operation, because the ones that would most directly be benefited are the ones that would in

the past not have made provision for the future in the way of carrying reserve acreage or reserve lines or looking for reserve feeders for the future, but have built only for the immediate present, and the enforcement of the Act would require those who have gone into West Virginia on the faith that their property rights would not be disturbed, and have invested large sums, first in the acquisition and second in the carrying of large amounts of reserve territory for future operation to surrender such territory secured originally for interstate purposes solely to intrastate use."

Page 908:

"Q. Have the compressing stations that have been constructed for the South of West Virginia on these various transmission lines been constructed for the purpose of transmitting gas in the State of West Virginia on through these interstate transmission lines?

A. Most compressing stations built in West Virginia have been built for the purpose of transmitting natural gas through the interstate transmission lines to other states."

Page 910:

"Q. Has the capacity of the transmission lines through which the gas is at the present time being transmitted for service in states other than West Virginia been computed and taxed and arranged for the purpose of supplying that service?

A. It has."

H. E. NEASE—DEFENDANT'S WITNESS.

Page 1003:

STATEMENT SHOWING ACREAGE HELD IN WEST VIRGINIA BY SEVEN COMPANIES DECEMBER 31, 1919.

	Undeveloped.	Developed.	Total
Hope Natural Gas Company	690,094	338,776	1,028,870
Pittsburgh and West Virginia Gas Company	209,128	108,198	317,326
United Fuel Gas Company	653,699	62,337	716,036
Reserve Gas Company	4,664	51,556	56,220
Carnegie Natural Gas Company	33,921	43,171	77,092
Columbia Gas and Electric Company	180,933	28,737	209,670
Manufacturers Light and Heat Company	94,281	56,530	150,811
Totals (seven companies)	1,866,720	689,305	2,556,025
Grand total	1,986,614	739,184	2,725,798
Percentage of grand total held by seven companies	93.9%	93.2%	93.8%

See West Virginia Ex. No. 17. showing corresponding figures for years 1910-1919 inclusive, offered p 998, appearing Folios 390-400. Exhibits 17A to 17K inclusive, offered p 998, appearing Folios 390-400, consist of reports showing the figures separated for the seven companies.

Pages 1176 to 1188 et seq., show statements of holdings of acreage of leases and number of wells in the individual companies above named in the different counties.

EDWIN ROBINSON.

Page 1391:

Pennsylvania Exhibit No. 54, offered at page 1391, in Book of Exhibits at page 1608.

Statement showing approximate acreage held by certain companies and individuals operating for oil and gas in West Virginia at approximately the present time.

Developed	Undeveloped	Total
524,007	1,416,659	1,940,666

General summary of acreage held by operators in West Virginia as compared with testimony of Mr. Nease, and testified by Nease as held by 7 companies:

	Developed	Undeveloped	Total
Held by 7 large companies	689,305	1,866,720	2,556,025
Ascertained as held by other operators	524,007	1,416,659	1,940,666
Estimated held by operators not included in above	100,000	3,300,000	400,000
	1,313,312	3,583,379	4,896,691
Percentage held by operarators than the 7 companies without the estimate of those unascertained.	43.2%	43.1%	43.2%
Percentage with the estimate of those unascertained	47.5%	47.9%	47.9%

IV.

THE AMOUNT OF THE INVESTMENT OF THE COMPANIES PRODUCING GAS IN WEST VIRGINIA AND TRANSPORTING IT TO OTHER STATES IN OBTAINING AND CARRYING LEASES, DRILLING WELLS AND LAYING PIPE LINES, &c.

HARRY A. QUAY.

Pages 5-6:

The Manufacturers Light & Heat Company has about 147,000 acres of gas territory under lease and about 457 gas wells in West Virginia.

Pages 24-25:

The Manufacturers Light & Heat Company has expended some thirty millions of dollars or more on various operations in West Virginia, these operations including the taking of territory, making leases, drilling wells, laying lines, building compressing stations, and so on. The investments of the other large companies in West Virginia must have run into tens of millions of dollars.

Pages 81 to 83:

In the year 1919, the Manufacturers Company was operating 461 wells and 48,155 acres in West Virginia, and had under lease 94,280 unoperated acres, having increased to that extent from 278 wells in 1910 and 33,918 acres operated and 60,704 acres unoperated in 1913 in the same State.

T. O. SULLIVAN.

Pages 184-185:

The Hope Natural Gas Company held under lease in West Virginia in 1919 about 1,010,000 acres of land, including operated and unoperated acreage, and 3440 producing gas wells. The operated acreage amounted to 322,777 acres.

Pages 206-207:

The Hope Natural Gas Company has invested an amount exceeding $100,000,000.00 in the gas business in West Virginia. This includes the acquisition of land, drilling of wells, laying of pipe lines, royalties, pumping stations, compressing stations, etc. The investment in capital concrete property used in the construction of the plant, which included wells, acreage, pipe lines, compressor stations, and other paraphernalia and appliances connected with the business, was estimated at approximately $37,000,000.

Pages 232-233:

In 1910 the Hope Natural Gas Company held under lease 151,838 operated acres, 842,987 unoperated acres, total 994,825 acres, and 1,326 gas wells. By 1919 this had increased to 322,777 acres operated, 687,155 acres unoperated, total 1,009,933 acres under lease, and 3,440 gas wells.

Pages 248-249:

Compressing stations are costly affairs, one 5,000 H. P. station costing about $750,000. One of the Hope Company stations—the Hastings Station—must have cost several millions of dollars.

Pages 268-275:

In the course of its operations the Hope Company acquired by purchase, by buying the stock, or by other methods, the Mountain State Gas Company, the Rural Gas Company, the Berea Light, Heat and Power Company, and the Mt. Clair Gas Company.

JOHN B. CORRIN.

Page 324:

The present investment of the Reserve Gas Company in West Virginia is about $7,000,000.00.

Pages 335-336:

The Reserve Gas Company has in West Virginia 56,000 acres of land. Of this acreage, 4,000 acres is unoccupied territory. The Hope Company has about 1,100,000 acres, and of this about 700,000 acres is unoperated. The oil and gas companies operating in West Virginia have paid at least sixty million to seventy-five million dollars in rental money in the last twenty years.

Pages 356 to 358:

The large gas companies, not including those affiliated with the Standard Oil Company of New Jersey, have invested over $100,000,000 in West Virginia in rentals alone, among them the Philadelphia Company, the Carnegie Natural Gas Company, the United Fuel Gas Company, the Manufacturers Light and Heat Company, the West Virginia Central Company, and the Fayette County Gas Company.

H. A. WALLACE.

Pages 359 to 361:

The United Fuel Gas Company invested about $1,000,000 in West Virginia up to 1909 without receiving any revenue therefrom up to that time. The total acreage of the United Fuel Gas Company in West Virginia is 806,785 acres. The Company has 626 gas wells in West Virginia.

Pages 367-368:

By the end of 1909 the United Fuel Gas Company had invested between 23 and 24 million dollars in actual cash in West Virginia. The valuation of the property owned by the company in West Virginia, as shown on the books of the company, is about $50,000,000.00.

Pages 373-374:

The United Fuel Gas Company expends annually in the laying of lines, drilling of wells, maintaining and building compressor stations, and in general to maintain gas lines, from two to three million dollars. This sum will increase as the fields get older.

JOHN B. TONKIN.

Page 425:

The Peoples Natural Gas Company, which was later acquired by the Standard Oil Co of N. J., had expended about $1,800,000 in laying pipe lines. A pipe line built by the Hope Company to Wilsonburg cost about $1,500,000.

Page 427:

The total investment of the Peoples Natural Gas Company, as of December 31, 1919, was $16,442,234.71, representing money sunk in main lines, field lines and city plants. Of this about 600,000 had been invested in gasoline plants and oil wells. The capital stock of the Peoples Natural Gas Company was $11,000,000.

W. W. FREEMAN.

Page 455:

The investment of the Columbia Gas and Electric Company, as of December 31, 1919, in wells, territory, pipe lines, compressor stations, etc. was at least $11,000,000. The company owned, as of the same date, 253 gas wells, 29,000 acres operated, 221,000 acres unoperated.

Page 456:

The investment of the Cincinnati Gas Transportation Company in West Virginia in similar property was approximately two and one-quarter million dollars. The entire investment of the company all the way through to Cincinnati was about seven and one-quarter million dollars.

Pages 463 to 465 to 472 (Cross-examination):

In 1915 the Columbia Gas and Electric Company had under lease 19,424 acres operated, 216,357 acres unoperated. By 1919 these figures had increased to 28,737 acres operated and 180,932 acres unoperated. All figures are for acreage leased in West Virginia. The figure of $11,000,000 previously testified to as representing the investment of the Columbia Gas and Electric Company in West Virginia represents both money invested and

the actual valuation of the Company's property. Valuations of $200 per acre have been put on the operated acreage and $10 per acre on the unoperated acreage. The investment had been ascertained upon a basis of replacement cost as of September 1917.

JAMES H. REED.

Pages 488 to 490:

The Philadelphia Company was running 13 compressing stations in West Virginia and 10 in Pennsylvania. The Company had expended something over $20,000,000 in West Virginia since the beginning of their operations there for leases, rentals, payrolls and taxes, and an equal sum for improvements.

In 1910 the Company had under lease in West Virginia acres operated 47,240; acres unoperated 424,355; total 471,596. By 1919 acreage unoperated had decreased to 209,127; acreage operated had increased as steadily to 108,198; total 317,326.

Gas Wells. In 1911 the Company had 487 gas wells in West Virginia. This number had increased to 1238 in March 1919.

Pages 504 to 505:

The total investment of the Philadelphia Company including that of the Equitable Gas Company, the Allegheny Heating Company, the Monongahela Natural Gas Company, the Pittsburgh and West Virginia Gas Company, the Philadelphia Company of West Virginia, and the Philadelphia Oil Company in Pennsylvania and West Virginia, was $45,000,000 according to the balance sheet for the year ending December 31, 1919. If the

amounts expended upon extensions were included the total would be around $60,000,000.

Page 522:

The Philadelphia Company had acquired from March 31, 1900 to March 31, 1901 over 30,000 acres of leases of productive territory in Lewis and Gilmore counties, West Virginia.

J. E. ANGLE.

Pages 536-537:

The investment of the Fayette Couunty Gas Company in its transporting and distributing systems and field operations, as of December 31, 1919, was $1,567,-449.15.

MARTIN B. DALY.

Pages 581-582:

The East Ohio Gas Company has in its main transportation system approximately 860 miles of pipe line. This does not include the gathering lines in the fields. In the towns and cities, for the distributing systems said company has approximately 3,000 miles, making a total of 3800 (3860) miles. This does not include anything below 2 inches, and if the smaller pipe were added it probably would increase that mileage by 300 miles.

Page 584:

The physical valuation of the plant of the East Ohio Gas Company is approximately $47,000,000. This does not include good will, franchise value or govern-

ment bonds,—includes nothing but physical property. The present capital stock outstanding is about $38,000,000.

Page 603 (Cross-examination):

Stock in the form of stock dividends has been issued to the amount of $4,500,000.

"The Peoples Natural Gas Company.

STATEMENT SHOWING AMOUNT OF INVESTMENT JAN 31st, 1903, to DEC. 31st, 1919.

January 31, 1903	2,866,168.37
December 31, 1903	3,356,291.66
" " 1904	5,542,687.20
" " 1905	5,720,388.09
" " 1906	5,840,844.73
" " 1907	6,166,291.77
" " 1908	6,926,445.78
" " 1909	7,711,793.13
" " 1910	8,895,543.06
" " 1911	9,055,152.74
" " 1912	9,713,904.90
" " 1913	10,736,887.28
" " 1914	11,855,830.50
" " 1915	12,324,018.03
" " 1916	13,409,435.93
" " 1917	14,207,497.76
" " 1918	14,955.003.89
" " 1919	16,442,234.71

L. B. DENNING.

Page 664:

The Ohio Fuel Supply Company has invested approximately $3,505,526.82 in its various lines and transmission systems for the purpose of transporting West Virginia gas to consumers in Ohio.

Page 707:

The original capital investment, or at least the approximate amount thereof, of the Ohio Fuel Supply Company is, as of May, 1920, for physical properties, $24,588,676.99; material in stock, $1,159,729.92. A total would approximately be $28,284,696.00. The figure of $24,588,676.99, as given above, represents simply the cost value of the actual physical property, main lines, transmission lines and distributing property, but said company is interested in other properties through stock ownership which would increase the total valuation of their property to about $34,574,960.99.

J. W. McMAHON.

Page 726:

The capital stock of the Northwestern Ohio Natural Gas Company is $2,750,000.00, and there has been invested as capital account in the construction, extending and building up of the property of said company to its present state, between six and a half and seven million dollars The present value would be greater than the amount here stated.

Page 737 (Cross-examination):

The six million dollars above stated covers physical

property. In addition to this, the said company carries a surplus of less than a million dollars.

EUGENE P. WHITCOMB.

Page 750:

The capitalization of the Union Natural Gas Corporation on May 24, 1902, was $6,000,000. In September, 1902 this was increased to $8,000,000; in June, 1903, this was increased to $9,000,000; and in March, 1913, to $10,000,000, which is the authorized capitalization at the present time. Said corporation has authorized bonds in the amount of $6,000,000. The amount in the treasury at the present time is $1,422,000; cancelled, $178,000; redeemed, $2,822,000, and outstanding as of this date, $1,578,000.

"Production System Pipe Lines

4	inch	148.94	miles
4¾	"	.80	"
4⅞	"	.17	"
5 3/16	"	10.65	"
5⅝	"	.61	"
6	"	121.97	"
6⅝	"	18.52	"
8	"	95.54	"
10	"	38.19	"
12	"	64.22	"
16	"	27.62	"
Total Production System Pipe Lines		527.23	"

Gas Well Data

Year	Productive gas wells drilled & purchased	Unproductive wells drilled	Total wells drilled & purchased	Gas wells abandoned and sold	Total gas well as of Dec. 31
1910	59	38	97	40	501
1911	64	22	97	70	495
1912	86	27	113	33	548
1913	92	28	120	42	598
1914	74	27	101	53	619
1915	119	27	146	37	701
1916	73	22	75	49	725
1917	100	45	145	79	746
1918	109	36	145	76	779
1919	54	46	100	76	757"

Page 775:

"A. The investment in stock of Reserve Gas Company and Connecting Gas Company by Union Natural Gas Corporation during the period from December 31, 1902, to December 31, 1914, both years inclusive, amounted to $3,650,000, of which amount $1,250,000 was paid in cash for stock of Reserve Gas Company and 15,000 shares of the par value of $100 per share of the stock of the Union Natural Gas Corporation."

Page 785:

"Q. Can you give us an estimate, or the exact value, of your investments made by reason of the fact that you have received and are receiving West Virginia gas?

A. The total investment in pipe lines to towns of other companies is $3,478,250.86; in the pipe lines to our own towns—or, rather, the towns in which we own the distributing plants $1,091,176.66; in the Sugar

Grove Compressing Station, $736,853.28; and in our distributing plants which are distributing West Virginia gas, $1,214,966.28; or a total of $6,521,254.08."

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1051 to 1053:

The Ohio Fuel Company and the South Penn Oil Company produce considerable gas which is sold to other companies, but on the list of natural gas utilities operating within State of West Virginia as of December 31, 1919, these companies have not been included because they are not required to make reports to the Board of Public Works. The same applies also to the Owens Bottle Machine Company.

Note: The total of the foregoing investments as shown by the testimony of the witnesses exceeds $350,000,000. Of this amount the same testimony shows over a half or about $200,000,000 is invested in West Virginia.

V.

THE EXPORTATION OF NATURAL GAS FROM WEST VIRGINIA TO OTHER STATES AS CARRIED ON BY THE GAS COMPANIES OPERATING IN THAT STATE, SHOWING THE LINES OF TRANSMISSION, THE MOVEMENT OF GAS THROUGH THE LINES AND THE OPERATION INTERSTATE AND AS ONE SYSTEM OR UNIT.

HARRY A. QUAY.

Pages 71, 70, 74; 87 and 88; 103 to 106; 111 to 114; and 155 to 157; The Manufacturers Light & Heat Company.

T. O. SULLIVAN.

Pages 187; 189 to 193; 254 to 257; 260 and 261 and 308 to 312; Hope Natural Gas Company.

JOHN B. CORRIN.

Pages 317 to 319, and 341 to 343; Reserve Natural Gas Company.

H. A. WALLACE.

Pages 385, and 409 to 410; United Fuel Gas Company.

W. W. FREEMAN.

Pages 455 and 456; Union Gas & Electric Company.

JAMES H. REED.

Page 530; Philadelphia Company .

HARRY A. QUAY.

Pennsylvania Exhibit No 1, offered at page 30, appearing at page 1493, replaced by Pennsylvania No. 39-E, offered at page 876 (Wyer), appearing at page 1585.

This is a map showing the main lines of The Manufacturers Light & Heat Company in Ohio, Pennsylvania and West Virginia. Testimony on page 30 gives the size of the various lines, which run from 6 to 20 inches. The map shows the pipe lines crossing the boundaries between Ohio, Pennsylvania and West Virginia over forty times.

Pages 16 to 18:

The Hope Company delivers gas to the Manufacturers Company at the Sedalia station in Doddridge County, West Virginia in large amounts. Gas from the well of the Manufacturers Company itself is delivered to the same station. The gases commingle and enter the compressor, where they are discharged and enter the same main line or distributing system leading to the various communities served. The same situation exists in the station at Wetzel County, West Virginia and at the Porter Falls station. All these gases with the exception of the Porter Falls gas, join and meet and enter the main discharge line of the Manufacturers Company at or near Ludenville, Marshall County, West Virginia. The gas leaves the Hundred station, passes through the balance of Wetzel County, enters and crosses the Pennsylvania State Line at Greene County, Pennsylvania, passes out of the State of Pennsylvania and again enters the State of West Virginia, and meets with the line coming from the Sedalia station at Ludenville.

The gas from the two stations commingle, then pass northeast through Marshall County, West Virginia, and again cross the state line.

Pages 15 to 16:

The distance from the most southern point of the pipe lines of the Manufacturers Light and Heat Company to the most northern point is approximately 168 miles. The most southern point is Sedalia Station, Doddridge County, West Virginia, and the most northern is in Mercer County, Pennsylvania. The Manufacturers Company receives gas which it either purchases or produces in West Virginia, into its own transmission or main lines in West Virginia and transports that gas from West Virginia into Pennsylvania.

The Manufacturers Company "produces gas in the three states (Pennsylvania, Ohio and West Virginia) in which it operates, buys gas in the three states in which it operates, transports and sells gas in the three states in which it operates."

"Q. Without the intervention of any other Company?"

A. Yes, sir."

In general, gas in the lines of the Company crosses and recrosses both the West Virginia-Pennsylvania and the West Virginia-Ohio State Lines.

Page 114:

There are other companies whose pipe lines cross and recross the Pennsylvania West Virginia State Line, although this condition does not exist to the extent of a single pipe line system crossing and recrossing a state

line 43 times, as is the case with the system of the Manufacturers Company.

Page 131:

The upper end of West Virginia, principally the towns of Chester and Newell, are supplied with gas from lines leaving the State of Pennsylvania and re-entering the State of West Virginia, and from lines coming from Ohio and entering the State of West Virginia.

Pages 146-147:

Among the companies whose lines cross and recross the state line of Pennsylvania and West Virginia are the Equitable Gas Company, the Carnegie Natural Gas Company, the United Fuel Gas Company. These companies sell gas to the States of Pennsylvania, West Virginia and Ohio, and West Virginia and Pennsylvania, respectively.

Pages 105 and 106:

As a general rule, once gas is discharged from the various compressing stations of the Manufacturers Company, it is impossible to tell where that gas is going; that is, any particular volume or mass of gas starting out from the compressing station might reach any of a number of destinations in widely divergent places.

Pages 109 and 110:

Although by making a direct manipulation it might be possible to send gas for instance from one of the Company's lines to feed consumers in the town of Chester, West Virginia, it still is by no means the invariable rule that such gas starting from the same point does go to that town.

Page 155:

"Q. Are the lines connecting your system of gas transportation to these respective compressing stations (in Doddridge County, Wetzel County and Marshall County, West Virginia, and Greene County and Washington County, Pennsylvania,) all connected into one system?

A. They are all connected together.

Q. And when these compressing stations are in operation, what is the effect thereof on the entire system, with reference to the influence of each of these stations?

A. The gas is permitted to discharge from the various compressing stations, enters the main lines at that point, and goes to whatever source it moves to.

Q. Do these compressor stations, when in operation, therefore, all of them, affect the gas in the entire system?

A. Any station operating, or not operating, would have its influence on the general system.

Q. The gas throughout the system, if I understand you correctly, passes back and forth according to the point of lowest pressure upon the line?

A. Yes, sir.

Q. And is influenced by the operation of any one or all of these stations?

A. As stated, any station operating or not operating would affect the flow of the gas."

Pages 49 and 50:

"Q. Mr. Quay, are your main transmission lines, or practically all of your transmission lines from West Virginia, connected onto the general transmission system of the company that runs into Pennsylvania, or are they separate main lines which have no connection one with the other?

A. They are connected one with the other.

Q. So as to constitute one general transmission system?

A. One large general system.

Q. What effect would the removal of gas from any portion of that system in West Virginia have upon the transmission of the gas into Pennsylvania? In other words, would it affect it?

A. It would.

Q. Would you be able to tell, or could you tell in any way, or have you any devices upon the lines by which you could tell as to where the effect would be most appreciable in Pennsylvania, if thus removed in West Virginia?

A. If I get the question right,—in fact, I don't get it right.

Q. Well, I will put it in a different form then: Is there any means of ascertaining, where any portion of gas is removed from the system in West Virginia, where it will have its greatest effect in Pennsylvania.

A. There is.

Q. Just tell us about that.

A. To remove,—I presume you mean if taken out and transported to other points in the lines in West Virginia, where it would have its effect in Pennsylvania?

Q. Where, yes,—where it would have its effect in Pennsylvania.

A. It would have its effect in all the lines in Pennsylvania, more particularly at the extreme end.

Q. And the extent of that effect, I presume, naturally would depend upon the quantity thus taken out?

A. It would.

Q. And if a large enough quantity was taken out,—that is, a large quantity, was taken out, could you then tell—and if so, how—where it would have its effect in Pennsylvania?

A. If a large quantity of gas is taken, of course it creates shortages in certain portions of the system, depending entirely upon the quantity taken out.

Q. And where, what points in the system would it chiefly affect—I mean, in Pennsylvania?

A. The farthest point away from the source of supply."

Page 99:

"* * * Ordinarily on our system the gas all comes in together and goes wherever it pleases, unless the line breaks or a compressing station is flooded out, or some break in the line which necessitates the handling of the gas in a different manner."

T. O. SULLIVAN.

Pages 204-205, 297-298:

Gas produced in West Virginia and sent through the lines of the producing comany, to-wit, the Hope Natural Gas Company crosses the State line of Pennsylvania and crosses back into West Virginia, simply following the direction which the pipe lines themselves take. Also gas furnished the Hope Company by the River Gas Company, which gas is produced in Ohio, is fed into the lines of the Hope Company, crosses the State line from Ohio into West Virginia and is commingled with other gas in the general system of lines of the Hope Company. So far as the direction of the flow of the gas is concerned, it depends entirely on the points of lowest pressure, and the witness knew of no appliance which could be installed, other than a compressing station, which would cause gas to flow from one line into another when the pressure on the receiving line was greater than it was on the delivering line.

Pennsylvania Exhibit No. 15, offered at page 186, appearing at page 1509, replaced by Pennsylvania Exhibit No. 48, offered at page 974 (Wyer), appearing at page 1600.

This exhibit is a map of the main lines of the Hope Natural Gas Company, the Reserve Natural Gas Company and the Peoples Natural Gas Company.

Page 189:

Size and length of the various pipe lines appearing on the map above mentioned, their locations, directions and routes. The pipe lines cross the State lines between West Virginia and Pennsylvania and West Virginia and Ohio.

Page 190:

The Hope Natural Gas Company delivers gas through its own lines in West Virginia to the Brave Station of the Peoples Natural Gas Company, which station is in Pennsylvania, a short distance from the State Line, and the lines of the Hope Company extend across that state line. Brave Station is in Greene County, Pennsylvania. There is also some gas delivered by the Hope Company in its own lines at the extreme southwestern corner of Greene County, Pennsylvania. The Hope Company also delivers gas to the East Ohio Company, near Moundsville and near Clarington, Ohio, the gas passing from West Virginia over into Ohio through the pipe lines of the Hope Company.

Pages 253 and 254:

"Q. The figures you have given are illustrative of calculations made which could be extended to various size lines and various pressures and various distances?

A. It could.

Q. I believe you stated that the system of the Hope Company was one complete system?—not separate units separately operated?,

A. It is.

Q. It is operated as whole?

A. It is.

Q. So that the gas received into the system can be, if desired, diverted to any given point or any given transmission line?

A. It can be diverted into any transmission line. It can be diverted into any of the transmission lines connected with the general system throughout the field. After the gas passes through compressing stations, it then enters the lines leading to certain cities or towns, and cannot be diverted, the way the lines are connected, after that occurs."

Page 258:

The various pipe lines of the Hope Company are equipped with gates, or valves, which may be operated to some extent so as to throw supplies of gas in various directions; that is, into certain of the transmission lines of the Company, and to shut off other transmission lines. The gates are generally used in case of breaks on any particular line, when the flow of gas in such line is thereby shut off.

Pages 309 and 310:

"* * * The discharge line from Craig Station connects into the suction at Schultz Station, when

it is provided, so that it can be by-passed around that station The second line and the other lines leading south from Schultz Station are suction lines proper for Schultz Station. These lines are connected together — paralleling each other on the map, are connected together, so that the double line for some distance south of Schultz Station can be used as a discharge line from Graig Station. To give you some idea how the plant is constructed, I might say that it is somewhat similar to a railroad system. Switches are provided for passing trains at certain points, and the same thing is provided in a natural gas system,—connections put in so that the gas can be by-passed from one point to another. Take the case of a railroad, sometimes a double track is built; trains going in one direction go out one track, and in the opposite direction on the other track, but at certain points switches or connections are provided, so that those trains can be switched over in case of emergencies The same thing is true in a natural gas system; certain provision is made for switching the gas through certain lines. But the most efficient way to operate it is the way in which it is designed, just the same as it is with the railroad; the most efficient operation is the way in which the plant is designed; but other provision is made whereby it can be utilized, not so efficiently, but to some advantage in case of emeregncy."

Page 314:

"Q. Now, Mr. Sullivan, these in-take lines, as to which you have been examined as to the number and so forth, consist of lines, in the first instance, that are connecte with each well, do they not? Each well has a line connected to it, to take the gas from the well?

A. It has.

Q. And some of these well lines are run into and connected with each well, do they not? Each well has are connected or run, and thus the gas is transmitted to the compressor station?

A. Yes, sir.

Q. That constitutes the system, does it not?

A. It does. Each well has a line leading from the well. In some instances, if there is only one well, this line might extend entirely to the compressor station, but if there are a number of wells in that locality, they would no doubt be connected into a larger main line that runs centrally through the territory, so as to take the gas from a number of wells. They are all—however, a part of the intake system, taking the gas from the wells to the compressor stations."

JOHN B. CORRIN.

Page 318:

The Connecting Gas Company is a transporting company not a producing company. It owns neither territory nor gas wells. It transmits gas produced by the Reserve Gas Company in West Virginia from the State Line between the states of Ohio and West Virginia to Sugar Grove, Ohio and Wheeler, Ohio.

H. A. WALLACE.

Page 364:

A line connecting with line "A" of the United Fuel Gas Co. near Kenova, West Virginia runs south to Inez, Kentucky and re-enters West Virginia ending at

Kermit, West Virginia; it crosses the State Line or River near Leach, Kentucky and Kenova, West Virginia, and subsequently crosses and recrosses the State Line several times. What is known as Line B 19 of the Reserve Company conducts gas from Wayne County, West Virginia across the river to a point at Wallbridge, Kentucky. No West Virginia consumers are on this line.

Pages 375 to 376:

When gas flows through a measuring station there is no stoppage or cessation in the flow, and the movement of the gas is continuous. As a matter of fact the gas cannot be measured except while in motion, and in the case, therefore, of a measuring station upon a State Line, gas flowing from the first state into the second would at no time suffer any stoppage or halt in its movement.

Pages 374 and 375; 376 and 392:

The Kermit field, a field of gas operating strata situate in Mingo County, West Virginia, and Martin County, Kentucky, has a gas bearing sand extending in one continuous stratum underneath the bed of the river dividing the two States, and the entire strip of sand lying partly in each State feeds gas into the pipe lines of the United Fuel Gas Company. It is impossible to determine whence any definite portion of the gas in the lines of the Company came; that is, whether from Kentucky or from West Virginia.

The Company has purchased gas in Kentucky to the amount of 615,000,000 cubic feet and in Ohio to the amount of over 14,000,000 cubic feet, which is com-

mingled with other gas in the lines of the Company produced or purchased in West Virginia and in Ohio. When gas is fed from any well into the lines of the Company, for instance line A, there is no way of knowing where that gas is going, whether to a consumer in West Virginia or to one in another State, nor is there any way of controlling it. The same holds good with reference to line E, another line of the company, although practically all the gas in that line goes out of the States. This much is possible of determination because there are very few West Virginia consumers on that line. The gas furnished to the United Fuel Company by the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company is fed into the general pipe line system of the United Fuel Company and commingled with the common mass of gas purchased and produced by that Company.

Pennsylvania Exhibit No 22, offered at page 360, appearing at page 1566, replaced by Pennsylvania Exhibit No. 39-D, offered at page 876 (Wyer), appearing at page 1584.

This is a map showing the natural gas property of he United Fuel Gas Company in West Virginia, Kentucky and Ohio This map shows the trunk lines of the United Fuel Gas Company and of the Columbia Gas & Electric Company, the compressor stations of the United Fuel Gas Company and the Columbia Gas & Electric Company, the drying plants of the companies and the distributing plant of the United Fuel Gas Company. The pipe lines appear on this map as crossing the boundaries of the respective States mentioned.

Pages 386-387:

The United Fuel Gas Company delivered to domestic consumers outside the State of West Virginia about a million and a half cubic feet of gas, and such gas was delivered in and transported to Ohio and Kentucky towns.

Some nine and a half million cubic feet of gas is delivered by the United Fuel Gas Company to the Ohio Fuel Supply Company after crossing the State Lines of West Virginia and Ohio.

Page 381 (Cross-examination):

"Q. Well, when you put the gas from any specific well into that line, and mingle it with the gas from other wells, you don't know where that gas is going, whether it is going to a consumer in West Virginia or a consumer out of West Virginia?

A. I do not, no sir.

Q. And you have no way to control it—You don't control it after it enters that line, whether it goes to a consumer in West Virginia or a consumer out of West Virginia, do you?

A. I couldn't keep track of that certain gas from a certain well, no, sir—not where it went."

JOHN B. TONKIN.

Page 439:

Gas produced by the Hope Natural Gas Company in West Virginia is transmitted to Pennsylvania through

lines crossing the state boundary to Pittsburgh, Altoona and Greensburg, Pennsylvania.

JAMES H. REED.

Pennsylvania Exhibit No. 23, offered at page 486, appearing at page 1566, replaced by Pennsylvania Exhibit No. 39-F, offered at page 876 (Wyer), appearing at page 1586.

This is a map showing the natural gas property of the Philadelphia Company in Pennsylvania and West Virginia as of January 1, 1920. The map shows the natural gas distributing plants, the compressing stations, the gas fields and direction of gas flow of the Philadelphia Company in the two States named. Two of the gas fields are shown as extending unbroken underneath the line dividing Pennsylvania and West Virginia.

Page 530:

As indicated on Pennsylvania Exhibit No. 23, there is a gathering line of the Philadelphia Company that extends from West Virginia Pennsylvania State Line. Lines operated by the Pittsburgh and West Virginia Gas Company, and by the Equitable Gas Company, connect somewhere near the State Line and form one continuous line of transportation.

Page 531:

Some gas is brought down from Pennsylvania to West Virginia and then back again into Pennsylvania.

J. E. ANGLE.

Page 554:

The lines of the Fayette County Gas Company extend in one continuous line from West Virginia into Pennsylvania.

MARTIN B. DALY.

Page 564:

Ohio Exhibit No. 1, offered at page 564, appearing at page 1695, replaced by Pennsylvania Exhibit No. 47 (Wyer) offered at page 973, appearing at page 1599. (Pennsylvania Exhibit No. 47 is a copy of Ohio Exhibit No. 1, being a map of the main lines of the East Ohio Gas Company differing from the original Exhibit 1 merely in scale).

Pages 564 to 570:

This exhibit shows that the lines of the East Ohio Gas Company extend through numerous counties in Ohio, and the testimony given by Mr. Daly in this connection sets out in detail the line, connections and routes taken by these pipe lines.

Page 565:

Lines of the East Ohio Gas Company connect at the Ohio River with pipe lines coming from West Virginia.

L. B. DENNING.

Ohio Exhibit No. 2, offered at page 651, appearing at page 1695, replaced by Pennsylvania Exhibit No. 49, offered at page 974 (Wyer), appearing at page 1601.

(This exhibit is an exact copy of Ohio Exhibit No. 2, differing from the original exhibit only in scale).

Pages 651 to 658:

This exhibit represents the main trunk lines and transmission lines of the Ohio Fuel Supply Company, together with the various communities to which it supplies gas. On this map are also indicated the lines of the Northwestern Ohio Natural Gas Company.

Page 653:

Gas Brought from West Virginia by the United Fuel Gas Company is taken on the Ohio side of the river and transported to Sugar Grove or Wheeler Station at Sugar Grove where this West Virginia gas is mingled with Ohio gas.

Pages 656 and 657:

"Q. Mr. Denning, I wish you would describe a little more in detail the route of the gas obtained from the United Fuel Gas Company, down at the river, as it goes to Cincinnati, giving its connection to the so-called Cincinnati line or division?

A. The system generally, Mr. Eagleson, is so arranged as to be interchangeable, or rather I should say, I fancy, inter-connecting. The point being to keep gas flowing to the distributing points as nearly uniform as can be done. Gas received from the United Fuel at its delivery point on this side of the river in Ohio, and coming from West Virginia, passes along through line E, the 18-inch line, until it reaches Wheeler Station at Sugar Grove. As I explained before, it is there mingled with the other gas which is brought up from Vinton and Jackson Counties and the other producing territory in

the Sugar Grove field. It then can be thrown in any one of several directions. It can be sent to Zanesville over this line and these intermediate points as shown on the map. It can and is sent to Columbus through the line indicated by red, or through the line indicated by blue. It can in emergency be sent up through the cross line, clear up to Treat Station, so that in the event of an emergency, assuming that Treat station should for some reason or other be put out of business, we might be able to render some service to this section of the country controlled by Treat station, from Wheeler station; or it can and most usually is taken through one or the other of these cross lines running westerly from Wheeler station, connecting with the Cincinnati 18-inch line, as an additional safeguard, for Xenia, Hamilton, London and Cincinnati, and the intermediate towns supplied."

Page 715:

The gas brought by the Ohio Fuel Supply Company through the line connected with that Company's line and running to Sugar Grove becomes commingled there with gas produced by that Company in the State of Ohio in the Jackson and Vinton district.

G. F. BATCELOR.

Pennsylvania Exhibit No. 25, offered at page 746, appearing at page 1566. This is an outline map of the main lines of the Natural Gas Company of West Virginia, both in the Northern and Southern divisions of the system.

Pennsylvania Exhibit No. 26, offered at page 746, appearing at page 1566. Map showing the natural gas property of the Natural Gas Company of West Virginia, Southern division.

EUGENE P. WHITCOMB.

Ohio Exhibit No. 10, offered at page 750, appearing at page 1709.

Pages 750 to 758 and 764 to 772:

A map of the main lines of the Logan Natural Gas & Fuel Company in Indiana and Ohio.

Page 781:

"Q. Is your system of transportation lines so connected or interrelated that in case of a shortage of gas from any field that you may have in one of the three divisions, can you transfer gas from another division to that one, to help out?

A. The transmission—or the main or larger transmission lines pass through all the fields. We can regulate the supply by cramping the gates against the towns nearest the compressing stations and carrying a larger pressure to the points farthest away. We have some lines through which the gas may be closed, and the gas driven in either direction, though the principal main trunk lines running north, the gas flows only in one direction.

Q. Then your pipe line systems in Ohio, as a whole, are one unit, are they?

A. Practically one unit; they are all connected.

Q. And the division of your system into the Northern, Central and Southern is for what primary purpose?

A. More for the Operating Department, as a matter of convenience in classifying data and operations pertaining to the lines, fields and wells."

S. S. WYER.

Pages 876-878:

Pennsylvania Exhibit No. 39-A, offered at page 876 (Wyer), (replacing Pennsylvania Exhibit No. 24), appearing at page 1581; being a map of the Fayette County Gas Company showing how the Fayette County Gas Company gets natural gas from West Virginia. This map shows the geographical location of the pipe lines of the Fayette County Gas Company both in West Virginia and in Pennsylvania, although at the present time the Fayette County Gas Company does not own any pipe line property in West Virginia and the lines shown in West Virginia are the pipe lines of the Hope Natural Gas Company that are used for service to the Fayette County Gas Company across the State line. The Hope Natural Gas Company produces the gas in West Virginia, transmits it to the Wade measuring station and there delivers it to the Fayette County Gas Company, which takes it then into Pennsylvania where it is delivered by said Company to consumers in Uniontown, Connellsville, Scottdale and other towns in Westmoreland and Fayette Counties.

Pages 888 and 889:

The lines of The Manufacturers Light & Heat Company form a continuous net work, crossing and recrossing from the State of West Virginia into the States of Ohio and Pennsylvania. From the manner in which the lines are constructed and operated, in order to determine

whether the gas produced by the Company and transmitted through its lines into any one of the three States comes from any particular one of the States, tests must be made, and in some parts of the system they would show that all of the gas was West Virginia gas. In other parts of the system they might show all the gas to be Pennsylvania gas, and in still other parts of the system the gas would be intermingled, being West Virginia, Pennsylvania and Ohio gas.

Pages 888-889:

Following the lines of said company from West Virginia into Pennsylvania, there is a line coming into Washington County, Pennsylvania, near the Majorsville Compressing Station. At Hundred on the West Virginia side there is a compressing station that drives the gas into West Virginia and the lower end of Greene County, Pennsylvania, and then back again into Marshall County, West Virginia. From Hickory, Pennsylvania there are lines which deliver gas into West Virginia and also into Steubenville, Ohio. On crossing the Western Pennsylvania boundary line the lines of this Company run from the north part of Hancock County and enter Ohio, also reaching Chester, West Virginia as well as East Liverpool and Wellsville, Ohio. From that point gas is taken generally into other counties of West Virginia and Ohio.

Page 891:

The lines to the Carnegie Natural Gas Company cross and recross from West Virginia to Pennsylvania.

Page 892:

The lines of the Eastern Oil Company cross the

dividing line between Maryland and West Virginia in a number of places.

Pennsylvania Exhibit No. 39-B, offered at page 876, appearing at page 1582.

Pages 878 to 882:

This map shows the transmission lines of Hope Natural Gas Company in West Virginia.

Pennsylvania Exhibit No. 39-C, offered at page 876, appearing at page 1583.

Pages 882 and 883:

This is a map of the main lines of the Reserve Gas Company in West Virginia.

Pennsylvania Exhibit No. 39-D, offered at page 876, appearing at page 1584.

Pages 883 and 885:

This map shows the natural gas property of the United Fuel Gas Company in West Virginia, Kentucky and Ohio.

Pennsylvania Exhibit No. 39-E, offered at page 876, appearing at page 1585.

Pages 885 to 890:

This is a map of the main lines of The Manufacturers Light & Heat Company in Ohio, Pennsylvania and West Virginia.

Pennsylvania Exhibit No. 39-F, offered at page 876, appearing at page 1586.

Page 890:

This is a map of the natural gas property of the Philadelphia Company in Pennsylvania and West Virginia.

Pennsylvania Exhibit No. 39-G, offered at page 876, appearing at page 1587.

Pages 890 to 892:

A map of the main lines of the Carnegie Natural Gas Company in Pennsylvania and West Virginia.

Pennsylvania Exhibit No. 39-H, offered at page 876, appearing at page 1588.

Pages 892 and 893:

Map of the main natural gas lines of the Eastern Oil Company in West Virginia and Maryland.

Pages 932 and 934:

Gas feeding from a well into a line, which line in turn carries gas partly to points of consumption in West Virginia and partly to points of consumption in Pennsylvania and Ohio, has no label upon it and there is nothing upon it to distinguish ownership; it is all intermingled. It is generally very difficult, and in many cases impossible, to tell what points such gas will reach ultimately. There is no way of identifying the gas reaching any consumer as coming from any particular well or district. The only thing that can be known is that if gas is fed from a well into a general system, a certain percentage of such gas will ultimately reach consumers on that line, whether in the originating State or in other

States. The flow of gas on a given line can be controlled by controlling the pressure on the line by means of manipulating the gates or valves.

Page 935:

"* * * There are certain local conditions where wells are feeding into lines crossing the state boundary, and where the direction of flow under normal conditions must always be the same, where it would always be an absolute certainty that the gas from those wells would get into a certain line, crossing the state line at a certain definite boundary, and going to a certain definite group of towns; for the property as a whole, however, it would be impossible to tell ordinarily—and that is especially true with a large number of wells in the southern part of the field—whether the gas would go one way or another. It is, of course, relatively very easy to proportion the amount of gas going into Ohio, to the East Ohio Gas Company, or to the Peoples Gas Company, or to the Fayette County Gas Company, by mere change of position of gate valve, but that change in position of gate valve will determine the relative volume as a total that will pass, and will have no bearing and will give no information on identity from either individual wells or even local fields."

CHARLES E. KREBS—DEFENDANT'S WITNESS.

West Virginia Exhibit No. 30-A, offered at page 1115, appearing at Folio 448.

Pages 113 to 1117:

Map showing the location of gas pipe lines and compressor and measuring stations in West Virginia of the Carnegie Natural Gas Company, Eastern Oil Company, Fayette County Gas Company, Hope Natural Gas Company, The Manufacturers Light & Heat Company, Philadelphia Company, Reserve Company and United Fuel Gas Company. This is a composite map showing the same lines, stations, &c., as were shown on several maps introduced by the State of Pennsylvania through Mr. Wyer.

H. E. NEASE—DEFENDANT'S WITNESS.

Page 994:

According to the report submitted by the Hope Natural Gas Company to the Board of Public Works of West Virginia, the business of the Hope Company is confined to the State of West Virginia. This is also true with reference to the report of the Pittsburgh & West Virginia Gas Company and of the Reserve Gas Company.

Pages 1030 and 1031:

The Pittsburgh & West Virginia Gas Company markets a small part of its gas within the State of West Virginia; the greater part of the entire production, however, is marketed to the Equitable Gas Company at the West Virginia State line. The Equitable Gas Company is controlled by the same interests as the Pittsburgh & West Virginia Gas Company. It is customary for the producing company in West Virginia, as in the case of the Pittsburgh & West Virginia Gas Company, to sell its gas at the State line at the cost of production within West Virginia to the producing company.

Page 1061 (Cross-examination):

The Hope Company and the Reserve Company furnish a large amount of gas to other companies that transport that gas into Pennsylvania, Ohio and other States. Therefore, a large portion of the gas produced by the Hope Company is delivered to other companies to whom it sells, which companies transport this gas into Ohio, Pennsylvania and other States.

Note: These maps have not been reproduced here, but are referred to as the most convincing argument of the fact that the operating systems are one unit ignoring State lines.

VI.

THE OPERATION AND EFFECT OF THE WEST VIRGINIA STATUTE WILL BE TO APPROPRIATE TO THE USE OF WEST VIRGINIA CONSUMERS GAS ALREADY IN COURSE OF TRANSMISSION FROM WEST VIRGINIA TO OTHER STATES AND DESTROY THE MARKET FOR THE PRODUCT OF THE GAS COMPANIES, RENDER THEIR PLANTS VALUELESS AND PARALYZE THEIR BUSINESS.

Some of the evidence under this heading is necessarily repetition of evidence under previous and subsequent headings but this has been avoided as much as possible. This evidence under Point VI must be considered with evidence particularly under points VIII and IX as well as other points to obtain a fair comprehension of the above proposition.

HARRY A. QUAY.

(Pages 25 and 26; 26; 38 and 39; 48, and 129 and 130):

(Page 26):

"Q. And what would be the effect on the market value of the property of the investors?

A. I would say that the market value of the property, without gas to serve the patrons, would be very little."

(Page 48):

"* * * Again, if the service of a consumer is interrupted, no matter whether it is an industrial or a domestic consumer, he realizes that he can place no de-

pendence on the service; he was depending on it for heating, and he found he was not getting sufficient gas for that purpose, and was forced to put in a substitute fuel; if he could not secure gas for cooking purposes or lighting his home regularly, satisfactorily to him, he would be compelled to secure other fuel, substitute fuel."

(Pages 53; 99 and 100; 105 and 106, and 111):

If, under the operation of the statute, the companies producing gas in West Virginia were compelled to furnish gas through the West Virginia lines to West Virginia consumers in greater quantities than were furnished without the compulsion of the statute, then there would be a proportionate reduction of pressure along the entire system of lines; and aomng the points where pressure would be reduced, would be points through which gas flowed which had crossed from West Virginia to Pennsylvania and back again into West Virginia, with the result that the companies would be compelled under the statute to furnish to West Virginia consumers gas which had already been transmitted to Pennsylvania and had flowed back through the lines once more to West Virginia.

As a general proposition, it is the pressure in the lines which determine the direction of the flow of gas and not the gates which are placed at intervals along the lines and which to some extent may direct the flow of gas. For the most part these gates are not closed. There is, therefore, no way of determining in advance where gas, starting from any given point, would reach its final destination, or in what State. As an example, the case was cited of some gas which had been sent out from a West Virginia compressing station and which had been contaminated by sulphur, the odor of which

was plainly evident. Complaints were subsequently entered by consumers in widely divergent points in West Virginia and in other States, to-wit, Pennsylvania and Ohio, to the effect that the odor of sulphur had been noticed in the gas.

Although, as a general rule, it is impossible to know beforehand, or to direct, the flow of gas from West Virginia to Pennsylvania, it is known that the gas furnished to consumers upon the lines of the company at the furthest point North in Pennsylvania where the Manufacturers Company supplies gas to consumers, was produced in Pennsylvania.

T. O. SULLIVAN.

(Pages 212 and 213; 214; 215 and 216; 222; 326, and 330):

(Page 214):

"* * * It (curtailment of supply to consumers outside of the State of West Virginia) would also have the effect of making the service that we could render to those companies so unsatisfactory to their consumers that they would necessarily have to adopt some other means of providing heat in their homes. Natural gas service, in order to be at all satisfactory, has to be practically a continuous service. Unless it can be relied upon, the public generally would only use it for such purposes as could be dispensed with easily at any time."

(Page 215 and 216):

"Q. What would be the effect upon the operation of your lines of an order from the Public Service Commission of the State of West Virginia to make connec-

tions with and supply the deficit of other natural gas companies in the State of West Virginia, for which you had made no provision and which previously you were not supplying, during these cold periods I have already referred to? * * *

Q. The statute providing that the Public Service Commission should have the power and the right to compel any gas company in the state engaged in the transportation of gas to make connections with and supply the deficit to any other or all other gas companies in the state which had a deficit at the time?

A. In many instances it would be practically impossible for us to comply with an order of that kind, under the present construction of our pipe line systems. The lines are built with a view to delivering gas to certain communities. The compressing stations are installed for that purpose and with that end in view. A connection of that kind made on many of the suction lines in the field leading to these compressing stations would necessitate shutting down those stations, in order to permit the gas to accumulate in the suction lines and get a sufficient pressure from the natural rock that it would produce such a pressure as to force the gas to the points where it might be needed. It would have the effect of rendering a good portion of our equipment valueless for the purposes for which it was intended."

(Page 216):

"Q. And what effect of disorganization would it have upon your operations, where no provision had been made for this particular demand at those particular times?

A. It would have the effect of creating a very chaotic condition, and of generally demoralizing the business. It would be almost impossible to operate under those conditions. In order to take care of any business, it is necessary to make some provisions, and if those provisions are interfered with, it certainly creates a very chaotic condition; more especially if that interference comes at times when all of the available supply is being utilized. It then creates a condition—I am frank to say I wouldn't know how to cope with it. It would be so dangerous that I would be very much disinclined to comply with any order of that kind, if it came at a time when conditions were serious.

Q. As I understand your answer then, as a practical gas man, you don't know what you could do under those circmustances, to operate the lines?

A. Not if I complied with the order. I should feel very much inclined to disregard the order and take a chance on going to jail, possibly."

(Page 222):

If during cold weather, under compulsion of the statute, gas in the lines of the Hope Company were diverted to industries and other consumption in West Virginia, it would make the supply available for Pennsylvania and Ohio consumers so unsatisfactory that they would be compelled to discontinue its use entirely. Considering the shortages already existing in cold weather, any further curtailment of the supply for Pennsylvania and Ohio would have a very detrimental effect on the service in those States.

JOHN B. CORRIN.

(Pages 326; 328, and 330):

If the gas territory and wells of the Hope and Reserve Companies were exhausted so that the business of supplying natural gas to consumers would have to be given up by the companies, the value of the plants would be "junk value," or less than 25 per cent. of the present value.

If the Reserve Company were compelled from time to time, especially in cold weather, to make connections with and supply other public utilities in West Virginia then those with which it had contracts and for which it had made provisions, it would not be possible to operate the system further because of the uncertainty and undependability of the gas supply furnished to consumers in Pennsylvania and Ohio; they could not be retained as consumers, and under such conditions it would not be practicable to maintain a gas company.
(Page 330):

"A. I can't imagine how it would be possible for us to retain our consumers at all, if they were going to be subject to that interrupted service; but I don't think that people would be annoyed by the interrupted service. Another thing,—I think it would be extremely dangerous to have interrupted service. It might be that the gas would go off, practically entirely off, and come on again. It might blow up their houses. And the discomforts that people would undergo, I think they would not be annoyed by it and would put it out of their houses.

H. A. WALLACE.

(Pages 368 and 369, and 370 and 371):

If the United Fuel Gas Company were compelled to obey the provisions of the West Virginia statute and supply the demands of the West Virginia consumers during the winter, it would be absolutely impossible to operate the Company successfully as a gas company under those conditions, for no doubt the Company would lose all its profitable business outside the State of West Virginia for the reason that the consumers would not tolerate the uncertain and insufficient gas supply which would result from an enforced compliance with the statute.

(Pages 368 and 369):

"Q. If your company was compelled to supply, under the terms of the proposed legislation, which we are now resisting, an adequate supply to fill the requirements of the domestic, industrial and other consumers of the State of West Virginia, before taking any of the gas outside of the state, what, in your opinion, would be the effect of this upon your ability to transport any gas out of the state?

A. I feel that in a very short time, in cold weather especially, we would have no gas to transport out of the state, and for that reason I do not believe domestic consumers and other people would care to be conencted to our lines, if they could only receive a supply of gas during the summer season, and in the winter time, when they absolutely needed the gas for heating and lighting and comfort, to have the supply discontinued, they naturally would not care to use gas for fuel.* * *"

JOHN B. TONKIN.

Pages 427 and 428; 428 and 429, and 429:

The value of the Peoples Gas Company's plant in the event of a cessation of gas supply to the extent that the plant could no longer be maintained would depend partly upon whether it could be converted into an artificial gas plant. As to the field and main lines, perhaps 15 per cent. of the investment could be salvaged. Unless the city distributing plants could be sold for the purpose of manufacturing artificial gas, their junk value would not pay for taking them out.

Pages 428 and 429:

"Q. Now, then, what would be the effect upon the operation of your company, if, under the provisions of the Act of the Legislature in controversy here, the Hope Company should be compelled to make connections with other companies to supply their deficit, or should be compelled to supply the demands of the consumers in West Virginia with gas before making deliveries to you? What would be the effect?

A. Well, the result would probably be that on extremely cold days there would be very little, if any, gas come north through the lines connecting with the Hope Company. It would create a situation that would leave us practically without gas, and what little gas we would have left would be scattered around to so many places, and we would have to try to do so much with so litle gas, that we wouldn't have any service. It would also create a dangerous situation, where the gas would go out, no doubt, in a number of places. In fact, it would demoralize the operation of the company.

Q. Would that demoralization go to the extent of substantially shutting down your operations?

A. I think that after one winter of that, our customers would probably want to leave us; that they wouldn't put up with the inconveniences and the suffering that they would have to go through, under those conditions."

JAMES H. REED.

Pages 505 and 506:

In the event that the natural gas supply of the Philadelphia Company failed completely, the wreckage value of the Company's gas lines, plants, distributing system, &c., would be next to nothing. This is due partly to the fact that the expense involved in lifting and taking out pipe lines would be greater than the sum realized from their sale. Moreover, most of the streets under which pipe lines lie having been paved, there would be difficulty in salvaging the system, and, therefore, as to the gathering and transporting systems the whole investment of the Company would be wiped out. As to the distributing systems in the cities, it might be possible to use the systems for artificial gas.

J. E. ANGLE.

Page 555:

If, under the operation of the West Virginia statute, the Hope and Reserve Gas Companies would be compelled during cold days of the winter to make a connection between their lines and Morgantown or those at Fairmont for the purpose of supplying any

deficit in those towns during this period, this would, without doubt, put the Fayette County Gas Company out of business, the Fayette Company being entirely dependent upon the Hope Company for its supply of gas.

MARTIN B. DALY.

Pages 588; 589 and 606:

Page 588:

"Q. Under those circumstances then, if the authorities in West Virginia, pursuant to the Act in question here, were to divert to persons, firms or corporations in West Virginia for the service of the public, or any part of the public, for all purposes, in the State of West Virginia, a substantial amount of the gas that otherwise would come through the Hope Natural Gas Company's lines to your company, what effect, if any, would that have with reference to the disorganizing and breaking down or destroying the operation of your company?

A. The result of such an action, in so far as we are able to anticipate it, would be the wreckage— practical financial wreckage of the company. It would result in depriving many of the communities of gas service of any kind. It would leave our transportation system without any reason or any practical use to which it could be applied. That alone would involve a loss of approximately $20,000,000, less whatever salvage might be obtained from it."

Page 589:

"Q. Now, you spoke of the result of such an act on the part of the authorities of West Virginia upon your physical property values. You may state more in detail, if you desire, what that result would be.

A. Financially the company must use its investment in its transportation system, for the reason that those pipe lines are constructed for the purpose of carrying very large quantities of gas, and if that quantity is not available, the system becomes useless. The pipes are very large and are not in demand for any other purpose, nor can they be used for any other purpose. We have but one pipe line that might be taken up and realize any profit over the cost of taking it up.

Q. What line would that be?

A. That would be the No. 1 line, 10 and 12 inch pipe. The 18 and 20 inch pipe would not be marketable.

Q. That would mean that the main transportation lines of your company from the Ohio River, in Monro and Belmont Counties, northward to the lake, would be rendered to what extent useless?

A. I should say that entire system would be lost."

Page 606: (Cross Examination):

When the supply of gas furnished by the Hope Natural Gas Company to the East Ohio Gas Company is reduced by 25 per cent. the plant of said latter company will become junk, for such a supply will be so inadequate for the demands that the business of said East Ohio Gas Company will be practically at an end for anything except cook stoves or lighting, and the use will not tolerate such an inadequate service.

T. J. JONES.

Page 636:

The Dayton Gas Company depends entirely for its supply upon the Logan Natural Gas & Fuel Company, which Company secures its gas from West Virginia. If the supply of gas furnished the Dayton Gas Company were curtailed, the Company would have to receive a much larger price for its gas or it would go into the hands of a receiver. The earnings of the gas companies depend upon the volume of gas. If the volume is very materially reduced it necessitates either higher rates or means bankruptcy of the companies. If the gas were entirely cut off the companies would be put out of business, lose their investments, or would have to proceed to erect manufacturing plants and produce manufactured gas.

L. B. DENNING.

Pages 672 and 673; 674; 678; 679, and 702:

Pages 672 and 673:

"Q. Now, with reference to those one million people dependent upon your company for natural gas, as you stated, if the authorities in West Virginia, pursuant to the act in question here, were to divert to persons, firms or corporations in West Virginia, for the services of the public, or any part of the public, for all purposes in the State of West Virginia, a substantial amount of the gas that otherwise would come through the United Fuel Company lines to the lines of your company for distribution to those consumers, what effect would that have upon their gas supply in Ohio, and the operation of your company in their service?

A. I understand your question to be what effect the diversion of a substantial amount of the gas received from West Virginia would have upon the operations and property of The Ohio Fuel Supply Company and the people whom it serves. Is that a correct conclusion?

Q. That is correct.

A. A very disastrous and destructive effect upon both, of course more or less dependent upon the quantity of gas diverted. A substantial quantity diverted would have the immediate effect of disorganizing and disarranging the service to the consumers throughout the state, make necessary the entire elimination of service from a considerable number of consumers, a complete rearrangement of lines, compressing stations and operating conditions of the company and undoubtedly deprive a considerable portion of the people served by the company, of gas service, thereby destroying the investment which they have in appliances, and also result in a destruction of a considerable portion of the company's property, by reason of the fact that it would no longer be of any value or use in the company's operations, and would not have any value whatsoever, except what might be possibly obtained from a resale or junk or a salvage value. It would necessitate—I think I have already said—a complete elimination or discontinuance of service to a considerable number of consumers."

Page 674:

The value of natural gas service to the consumer depends upon the continuity of supply. Anything that interferes with that continuity of supply results in a disrupted and unsatisfactory service.

Pages 678 and 679:

"A. With very few exceptions they would be reduced simply to their junk or salvage value, for the reason that they were constructed primarily for the distribution of natural gas without regard, or without thought of ever utilizing them in manufactured gas distributions. You understand that the principles of construction as between a natural gas plant and a manufactured gas plant are entirely different and we would have very little left out of the distributing systems which we own ourselves other than junk or reclaimed value. I believe that some portions of the City of Toledo might be utilized in manufactured gas distribution, but even that is problematical."

Page 702:

When the diminishing supply of gas has failed or been used the gas companies will be put out of business and the consumer will have to turn to some other form of fuel.

J. W. McMAHON.

Pages 725 and 734 and 735:

The Northwestern Ohio Natural Gas Company will be financially ruined under the operation of the West Virginia statute, and its property would have only a junk value.

Pages 734 and 735: (Cross Examination):

If the supply of gas furnished the Northwestern Ohio Natural Gas Company by the Hope Natural Gas Company were diminished 2,000,000 feet a day, it would be dangerous for the company to attempt to operate.

EUGENE P. WHITCOMB.

Pages 782 and 783; 783; 783 and 784 and 787:

If for any reason West Virginia gas should be denied the companies of the Union Natural Gas Corporation, this would ruin and demoralize the service of the entire southern division of said corporation, with the exception of the two and a quarter million of gas available in local fields. There would be absolutely no gas whatsoever passing through the lines west of the Sugar Grove compressing station supplying the cities of Dayton, Muncie, Richmond, New Castle and other cities and towns in Ohio and Indiana. There would be no service whatever, or supply, to deliver to the City of Lancaster, in Fairfield County, Ohio; and the City of Newark, in Licking County, would be substantially out of gas.

Page 783:

"Q. What would be the effect upon your distribution system, and your supply to you company, if, for any reason the supply from West Virginia would become intermittent and irregular, sometimes—to illustrate—coming as it is now under your contract and then again being substantially denied to you?

A. It would probably result in the loss of all of the service under the contracts to which I have referred, by reason of being unable to give them a continuous supply. They would probably discontinue the use of natural gas altogether."

Pages 783 and 784:

Under the operation of the West Virginia statute the companies of the Union Natural Gas Corporation

will receive no gas at the Sugar Grove station. This would demoralize the entire service of the southern division and render the investment, lines, compressing stations and distributing plants of very little value.

Page 787:

"* * * Now, I want to ask you: If, for any reason, you were denied a supply of gas from West Virginia, what would be your financial loss because thereof?

A. It would be approximately the total value of the compressing plants, pipe lines and distributing systems, less whatever might be obtained in the way of junk value, or if sold as second-hand material, providing a purchaser could be obtained."

J. K. ANDERSON.

Pages 820; 830 and 831, and 853 and 854:

Under the operation of the West Virginia statute it would be possible for the interstate companies doing business in West Virginia, in supplying gas to consumers in the States of Ohio and Pennsylvania, to operate at times, but they would be seriously crippled in their operations. Their plants would be practically useless for a large part of the year and they would lose their market in those other States and thereby lose all or a large part of the plant used in serving consumers in the other States in transporting gas from West Virginia to those other States, both through large main lines and possibly some compressing stations.

Page 820:

If for any cause the supply of natural gas furnished to either domestic or industrial consumers becomes inter-

mittent and not continuous it would be impossible for the gas company to retain a market for its gas under such condition, for this would cause great dissatisfaction and result in the use of substitute fuel and destroy the market for gas.

Pages 853 and 854; Cross-examination:

The operation of the West Virginia statute would seriously diminish the supply of gas to consumers in Pennsylvania and Ohio.

NOTE—As bearing upon the demand for gas in West Virginia and some of those who would have to be supplied in accordance with the testimony of witnesses for the defendant upon that subject.

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1004-9:

"STATEMENT SHOWING INCORPORATED CITIES AND TOWNS OF WEST VIRGINIA SUPPLIED WITH NATURAL GAS, AND THE POPULATION THEREOF, 1900, 1910 AND 1920.

	Population 1920	Population 1910	Population 1900
Belington, Barbour County	1,766	1,481	430
Junior, Barbour County	593	435	338
Philippi, Barbour County	1,543	1,038	665
Burnsville, Braxton County	1,088	770	.....
Flatwoods, Braxton County	300	234	.....
Gassaway, Braxton County	1,518	1,086	.....
Sutton, Braxton County	1,500	1,121	864
Danville, Boone County	327	.....	.....
Madison, Boone County	604	295	.....
Bethany, Brooke County	400	433	245
Follansbee, Brooke County	3,135	2,031	.....
Wellsburg, Brooke County	4,918	4,189	2,588
Barboursville, Cabell County	974	907	429
Huntington, Cabell County	50,177	31,161	11,923
Milton, Cabell County	1,023	837	582

Grantsville, Calhoun County	450	282	225
West Union, Doddridge County	1,270	779	623
Montgomery, Fayette County	2,130	1,888	1,594
Glenville, Gilmer County	327	336	398
Layopolis, Gilmer County	175	156	.....
Troy, Gilmer County	113	144	148
Bayard, Grant County	1,074	417	540
Chester, Hancock County	3,283	3,184	.....
Hollidays Cove, Hancock County	1,213	.....	.....
New Cumberland, Hancock County	1,816	1,807	2,198
Bridgeport, Harrison County	1,346	577	464
Clarksburg, Harrison County	27,869	9,201	4,050
Lumberport, Harrison County	900	656	.....
Salem, Harrison County	2,920	2,169	746
Shinnston, Harrison County	1,679	1,224	535
Ravenswood, Jackson County	1,284	1,081	1,074
Ripley, Jackson County	580	591	579
Cedar Grove, Kanawha County	918	679	.....
Charleston, Kanawha County	39,608	22,996	11,099
Clendenin, Kanawha County	1,263	815	.....
East Bank, Kanawha County	586	551	468
Eskdale, Kanawha County	1,161	.....	.....
Pratt, Kanawha County	315	306	.....
South Charleston, Kanawha County	3,650	.....	.....
St. Albans, Kanawha County	2,825	1,209	816
Union Mines, Kanawha County	291	.....	.....
Jane Lew, Lewis County	560	327	.....
Weston, Lewis County	5,701	2,213	2,560
Hamlin, Lincoln County	516	.....	.....
Logan, Logan County	2,998	1,640	444
Fairmont, Marion County	17,851	9,711	5,655
Fairview, Marion County	827	782	.....
Farmington, Marion County	679	519	.....
Mannington, Marion County	3,673	2,672	1,681
Monongah, Marion County	2,031	2,084	1,786
Rivesville, Marion County	1,061	190	164
Worthington, Marion County	381	292	.....
Benwood, Marshall County	4,773	4,976	4,511
Cameron, Marshall County	2,404	1,660	964
McMechen, Marshall County	3,356	2,921	1,465
Moundsville, Marshall County	10,669	8,918	5,362
Point Pleasant, Mason County	3,059	2,045	1,934
Elk Garden, Mineral County	422	438	581
Keyser, Mineral County	6,003	3,705	2,536
Piedmont, Mineral County	2,835	2,054	2,115
Kermit, Mingo County	636	.....	.....
Williamson, Mingo County	6,819	3,561	.....
Blacksville, Monongalia County	218	204	180
Morgantown, Monongalia County	12,117	9,150	1,895
Star City, Monongalia County	1,202	318	.....
Triadelphia, Ohio County	299	261	287
Wheeling, Ohio County	54,322	41,641	38,878
St. Marys, Pleasants County	1,648	1,358	825
Kingswood, Preston County	1,417	800	700
Tunnelton, Preston County	703	792	479
Albright, Preston County	262	.....	.....
Terra Alta, Preston County	1,261	1,126	616
Rowlesburg, Preston County	862	936	652

Hurricane, Putnam County	666	422	240
Beverly, Randolph County	212	438	464
Elkins, Randolph County	6,788	5,260	2,016
Huttonsville, Randolph County	265	251	.....
Mill Creek, Randolph County	762	740	.....
Montrose, Randolph County	129	112	.....
Cairo, Ritchie County	662	668	653
Ellenboro, Ritchie County	286	204	.....
Harrisville, Ritchie County	1,036	608	472
Pennsboro, Ritchie County	1,654	930	738
Alvord, Roane County	285	229	.....
Reedy, Roane County	373	313	300
Spencer, Roane County	1,765	1,224	737
Grafton, Taylor County	8,517	7,563	5,650
Davis, Tucker County	2,491	2,615	2,391
Hambleton, Tucker County	488	1,300	.....
Hendricks, Tucker County	622	640	317
Parsons, Tucker County	2,001	1,780	618
St. George, Tucker County	150	245	152
Thomas, Tucker County	2,099	2,354	2,126
Centreville, Tyler County	155	113	156
Friendly, Tyler County	173	217	253
Middlebourne, Tyler County	929	546	403
Padden City, Tyler Co. (part of)	215	.....	.....
Sistersville, Tyler County	3,238	2,684	2,979
Buckhannon, Upshur County	3,785	2,225	1,589
Credo, Wayne County	1,110	1,215	1,279
Fort Gay, Wayne County	617	.....	.....
Kenova, Wayne County	2,162	992	863
Wayne, Wayne County	981	.....	.....
Brooklyn, Wetzel County	724	627	632
Hundred, Wetzel County	710	557	261
Littleton, Wetzel County	660	712	509
New Martinsville, Wetzel County	2,341	2,176	1,089
Paden City, Wetzel Co. (part of)	1,490	.....	.....
Pine Grove, Wetzel County	797	474	.....
Smithfield, Wetzel County	774	765	.....
Elizabeth, Wirt County	681	674	657
Parkersburg, Wood County	20,050	17,842	11,703
Williamstown, Wood County	1,793	1,139	.....
Totals	395,113	265,506	159,435

CHARLES E. KREBS—DEFENDANT'S WITNESS.

Pages 1121 and 1122:

J. S. LAKIN—DEFENDANT'S WITNESS.

Pages 1140-1154; 1155; 1158:

B. F. ROBINSON—DEFENDANT'S WITNESS.

Page 1207.

R. T. CUNNINGHAM—DEFENDANT'S WITNESS.

Pages 1220 and 1221, and 1241:

The people living in the counties of Wetzel, Monongalia and certain other counties mentioned by Mr. Krebs have built their homes and equipped them for the use of natural gas therein as fuel and for illuminating purposes. A number of industries have been built and were so located for the reason that they could utilize natural gas for fuel. This is especially true in the counties of Marshall, Ohio, Wetzel, Marion, Monongalia, Harrison, Doddridge, Tyler, Pleasants etc., Wood. In Clarksburg and Fairmont all the dwelling houses were equipped for natural gas for heating. Some of the office buildings and places of business in Clarksburg were built without taking into consideration the possibility or the necessity of changing fuel at some future time. About 10 per cent. of the dwelling houses in Fairmont, however, were constructed with heating, hot water or steam heating furnaces. Factories and industrial plants in Fairmont were equipped for the use of gas.

The West Virginia University at Morgantown, the Preparatory Branch of the University of West Virginia at Keyser, the buildings at Marshall College in Huntington, the West Liberty Normal School in Ohio County, and various other colleges, schools and hospitals in Gilmer and Kanawha Counties, in the towns of Huntington, Fairmont, Moundsville, Terra Alta and Elkins, were built and equipped for the use of natural gas as a fuel.

The West Virginia University at Morgantown was compelled to change from the use of gas to the use of

coal as a method of heating upon the request on the part of the West Virginia Traction and Electric Company in order that said company might give better service to domestic consumers in Morgantown. The Preparatory Branch of the West Virginia University at Keyser, the West Virginia Trades School at Montgomery, the Glenville Normal School at Glenville and the West Virginia Collegiate Institute in Kanawha County have had an inadequate supply of gas for a period of years varying from one to three. During the cold weather it has been frequently necessary to dismiss school and there has frequently not been enough gas to prepare meals. Because of the inadequate supply of gas, the West Virginia School for Boys in Taylor County was compelled to change the heating plant from gas to coal. Because of an inadequate supply of gas at the West Virginia Industrial Home for Girls in Harrison County it was frequently necessary to put the girls to bed in order to keep them warm.

The Weston State Hospital and the Fairmont State Hospital have had during recent years an inadequate supply of gas. At times it has been necessary to shut down the laundry, to abandon electrical equipment and pumping equipment and to change, in the case of the Fairmont Hospital, from the use of gas as fuel to coal as fuel. During the extremely cold weather, at the Weston State Hospital it has been necessary to put patients to bed in order to keep them warm. The State Tuberculosis Sanitarium at Terra Alta has had a very poor supply of gas for about three years. In January of 1920 the gas supply was so inadequate that the patients would have frozen to death if the superintendent had not erected stoves and built fires, putting the pipes out through the windows as there were no

chimneys. The West Virginia Children's Home at Elkins has had such a poor supply of gas that it has been compelled to make a temporary change from gas to coal.

Wherever gas was supplied to the above mentioned institutions by one of the large interstate companies, the service was uniformly good. Where the service was defective it was from local companies.

B. F. ROBINSON—DEFENDANT'S WITNESS.

Pages 1205, 1206:

Since the time gas commenced to be used as a fuel in Clarksburg the city has grown from a population of about 6,000 in 1900 to about 28,000 at the recent census. Gas was first used in about 1892 or in 1893. The great increase in the population and growth of Clarksburg can be attributed to the use of natural gas. The abundance of natural gas in 1900 and the surplus in this vicinity led to the offering of very low rates of four cents. As there was no market for the gas at that time it was used as an inducement to bring factories and consumers to Clarksburg. Practically all the industries in the vicinity of Clarksburg came in from outside sources. These industries brought at least 10,000 skilled workmen and other people connected with same in Clarksburg where they have located permanently, purchased homes and settled.

R. T. CUNNINGHAM—DEFENDANT'S WITNESS.

Pages 1222, 1223:

The use of gas at Fairmont, West Virginia, has had an appreciable effect in the growth of that city. Because

of the availability of natural gas at low rates many industries requiring gas for fuel settled there, bringing with them skilled help and attracting other labor into the community. These workmen and people connected with the industries have located and built their homes in Fairmont and are dependent on these industries for their support. In general, throughout the Monongahela Valley of West Virginia, the same influence of natural gas in the matter of growth and development of the community may be traced. Some of the principal cities in this valley are Morgantown, Clarksburg, Mannington, Weston, Buckhannon and Grafton.

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1178, 1182, 1183, 1184, 1185, 1186, 1187, 1188:

The West Virginia University consumes gas furnished by the West Virginia and Maryland Gas Company, a subsidiary of the Eastern Oil Company group. The West Virginia Collegiate Institute in Kanawha County is supplied with gas by the Charleston-Dunbar Natural Gas Company, which has a connection with the United Fuel Gas Company. The Weston State Hospital is supplied with gas by the Keener's Oil, Natural Gas and Fuel Company, which, until May, 1919, received its gas from the Hope Company. The Spencer State Hospital in Roane County is served with gas by the United Fuel Gas Company. Marshall County, where the West Virginia Penitentiary is located, is served with gas by the Manufacturers Light and Heat Company, and to a small extent by the Pittsburgh and West Virginia Gas Company and the Hope Company. The West Virginia Industrial School for Boys in Taylor County is served by the Hope Company and the Pittsburgh and West Virginia Gas Company. Five of the large interstate com-

panies, to-wit: The Carnegie Natural Gas Company, the Reserve Gas Company, the Pittsburgh and West Virginia Gas Company, the Hope Natural Gas Company and the Manufacturers Light and Heat Company operate in Harrison County where the West Virginia Industrial Home for Girls is located. The State Tuberculosis Sanitarium at Terra Alta, Preston County, is served by the Northern Natural Gas Company, and the West Virginia Children's Home at Elkins in Randolph County is served by constituent companies of the Eastern Oil Company.

JOHN J. CORNWELL—DEFENDANT'S WITNESS.

Governor of West Virginia.

Pages 1193, 1197:

Prior to the enactment of the West Virginia statute in question the Governor of the State had received numerous complaints relative to the inadequacy of service furnished by the companies operating in West Virginia with a demand and a request for relief in respect thereto. These complaints and demands, beginning about 1917, came from manufacturers, gas consumers in Clarksburg, various Boards of Trade, Chambers of Commerce, Rotary Clubs, persons connected with hospitals, etc. Partly as a result of such complaints and requests the Governor laid the situation before the legislature during 1918 by a paragraph in his bi-annual message with a result that the statute in question was passed.

B. F. ROBINSON—DEFENDANT'S WITNESS.

Pages 1205, 1206, 1207, 1210:

Clarksburg, having a population of about 28,000

according to the last census, uses natural gas almost exclusively for domestic fuel and for fuel for industrial purposes. The Clarksburg Light and Heat Company has been compelled to buy gas from independent producers and from the Hope Company in order to supply its deficiency.

R. T. CUNNINGHAM—DEFENDANT'S WITNESS.

Pages 1218-25, 1228-29:

Natural gas has been in common use in Fairmont, West Virginia for domestic and industrial purposes since prior to 1894, but reecntly some of the larger industries have put producer plants in operation.

Because of the inadequacy of gas service a large number of consumers in Fairmont are considering changing to the use of coal. The first serious shortage of natural gas came there during the Winter of 1916-1917. During this period the industries had no fuel for practically sixty days, schools had to be closed down, churches could not be properly heated, and there was considerable suffering and inconvenience. Glass activities suspended work for a period of from four to eight days, naturally causing considerable unemployment. In the Monongahela Valley many consumers have taken up the use of producer gas or other forms of fuel instead of natural gas. This applies especially to glass industries having continuous, not seasonal operation.

CHARLES M. SNAITH—DEFENDANT'S WITNESS.

Pages 1281, 1282:

The local company supplying the town of Weston has not been able to meet the demands of the domestic consumers of natural gas for a period of two years.

CHARLES A. SHORT—DEFENDANT'S WITNESS.

Pages 1281 1282:

In Shinnston, domestic consumers have suffered from the shortage of natural gas and it has been necessary in the electric light plant there to use coal, and stores, public buildings and school houses have also been affected by the shortage. These conditions are general in Harrison County. Until two years ago natural gas was used in Shinnston for all heating and lighting purposes in some industries.

VANCE L. HORNER—DEFENDANT'S WITNESS.

Pages 1309, 1311 to 1312:

Until the past year Lumberport, W. Va., used natural gas for domestic and industrial purposes. For the last three or four years the Lumberport Gas Company has been unable to supply its consumers of natural gas in outlying districts such as Erie and Hepzibah. If all the companies operating in this vicinity took their gas at only a natural pressure the Lumberport Natural Gas Company and the Shinnston Gas Company would be able to keep on supplying their consumers for four or five years, but if the larger companies, by the use of pumping stations, make a general practice of taking their gas out on a vacuum the wells of these companies will be drained and they will be able to supply their consumers for only about a year longer.

PARKE BOWSER—DEFENDANT'S WITNESS.

Page 1331:

Some communities such as Glenville, which is far

from the source of supply, are using coal for fuel because they have not enough gas to supply them.

F. C. DEVERICKS—DEFENDANT'S WITNESS.

Pages 1343, 1344:

In section embraced by Doddridge, Harrison, Lewis, Wetzel and other counties in the north central part of West Virginia natural gas was generally used for heating, lighting and manufacturing purposes. Clarksburg has used gas for domestic purposes since 1893 or 1894, and this has been the exclusive fuel until the recent shortages in gas in 1915 and 1916.

During the winter of 1915-1916 there was a severe shortage of gas in and about Clarksburg. A great many industries were closed down, resulting in a loss of about one million dollars a week to the community. This was directly ascribable to the shortage of gas. The shortage was general throughout the State. Similar conditions with regard to industrial shut-down prevailed throughout the Monongahela Valley. This was the first severe shortage.

VII.

THE OPERATION AND EFFECT OF THE WEST VIRGINIA STATUTE WILL BE NOT ONLY TO IMPAIR BUT WILL DESTROY AT TIMES THE CONTRACTS BETWEEN THE GAS COMPANIES AND OTHER COMPANIES AND CONSUMERS, DOMESTIC AND INDUSTRIAL, AND THE STATES OF PENNSYLVANIA AND OHIO AND THE UNITED STATES GOVERNMENT, AND WILL AT ALL TIMES MAKE SAID CONTRACTS UNENFORCEABLE AND MAKE THE OTHER PARTIES THERETO CANCEL THE SAME.

HARRY A. QUAY.

Pages 7 and 8; 118; 119, and 120:

The Manufacturers Light & Heat Company has a contract with the State of Pennsylvania to supply gas to the Boys' Industrial Home, known as Morganza. Said Company has contracts with the United States Government to supply gas to government dams along the Ohio River, and, further, said Company has contracts with the United States Government to supply gas to various post offices in Ohio, Pennsylvania and West Virginia. In addition to these, The Manufacturers Light & Heat Company has contracts to supply gas to various counties, as for example, Allegheny County, Pennsylvania, which gas is used by the county and State for county institutions. The Manufacturers Light & Heat Company also furnishes gas to the Department of the Interior, Bureau of Mines of the United States. State institutions, various municipalities, and in some instances county institutions, in West Virginia and Pennsylvania, are supplied with gas by The Manufacturers Light & Heat Company under contracts.

West Virginia Exhibit No. 1, offered at page 138, appearing at page 1712.

Gas Purchase Agreement between the Hope Natural Gas Company and The Manufacturers Light & Heat Company.

T. O. SULLIVAN.

Page 211:

The Hope Natural Gas Company had a contract with the East Ohio Company, dated March 1, 1910; with the Peoples Natural Gas Company, dated May 1st, 1911; with the Fayette County Gas Company, dated May 1st, 1910; with the Mountain State Gas Company; and the River Gas Company, dated April 1, 1910, which was assumed by the Hope Company on April 1, 1910; the contract with the Northwestern Ohio Natural Gas Company, dated October 16, 1915; the contract with the Reserve Gas Company, dated April 11, 1913.

Page 223:

The Hope Natural Gas Company supplies various municipalities and governmental institutions, both State and Federal, with gas, such as post office buildings, government dams, court houses, hospitals, churches, public schools and institutions of that character by virtue of contracts.

Pennsylvania Exhibit No. 16, offered at page 224, appearing at page 1509.

A contract between the Hope Natural Gas Company and the Northwestern Ohio Natural Gas Company, dated October 16, 1915.

Pennsylvania Exhibit No. 17, offered at page 225, appearing at page 1524

A contract between the Hope Natural Gas Company and the Peoples Natural Gas Company, dated May 1st, 1911.

Pennsylvania Exhibit No. 18, offered at page 225, appearing at page 1535.

A contract between the Reserve Natural Gas Company, the Union Natural Gas Company, the Hope Natural Gas Company, the Connecting Gas Company and T. N. Barnsdall, dated April 11, 1913.

Pennsylvania Exhibit No. 19 offered at page 225, appearing at page 1544.

A contract between the Hope Natural Gas Company and the East Ohio Gas Company, dated March 1, 1910.

Pennsylvania Exhibit No. 20, offered at page 225, appearing at page 1554.

A contract between the Mountain State Gas Company and the River Gas Company, dated April 1, 1910.

Pennsylvania Exhibit No. 21, offered at page 225, appearing at page 1560.

A contract between the Hope Natural Gas Company and the Fayette County Gas Company, dated May 1st, 1910.

West Virginia Exhibit No 2, offered at page 284, appearing at page 1724.

Hope Natural Gas Company and The Light, Fuel & Power Company agreement.

Page 326:

"Q. From your knowledge of the demand for gas in the State of West Virginia at the present time by other public utilities, industrial consumers, domestic consumers, and others in the state of West Virginia, what do you say if their demands and requirements were first fully supplied, as to whether or not you could carry out your contracts and transport the gas produced by you out of the State of West Virginia?

A. We certainly could not live up to our contracts, and in addition, it would practically make a whole lot of our equipment and lines a lot of junk, without value."

H. A. WALLACE.

Page 373:

The United Fuel Gas Company supplies gas to natural gas companies that convey it to Louisville, Cincinnati and Pittsburgh, by virtue of contractual relations existing between said companies and the United Fuel Gas Company.

Pages 388 and 389:

The United Fuel Gas Company furnishes gas to the town of Nitro, West Virginia, a manufacturing town built by the United States Government during the war.

Page 402 (Cross-examination):

The United Fuel Gas Company has contracts with the Columbia Gas & Electric Company, the Ohio Fuel Supply Company, the Central Kentucky Natural Gas Company, the Louisville Gas & Electric Company, the Portsmouth Gas Company, the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company.

West Virginia Exhibit No. 35 offered at page 1199, appearing at page 1738.

Agreement dated July 5th, 1913, between the United Fuel Gas Company and the Louisville Gas & Electric Company.

West Virginia Exhibit No. 36, offered at page 1199, appearing at page 1745.

United Fuel Gas Company and Portsmouth Company agreement.

West Virginia Exhibit No. 37, offered at page 1199, appearing at page 1752.

United Fuel Gas Company and Central Kentucky Company agreement.

West Virginia Exhibit No. 38, offered at page 1199, appearing at page 1761.

United Fuel Gas Company and Ohio Fuel Supply Company agreement.

West Virginia Exhibit No. 39, offered at page 1199, appearing at page 1769.

United Fuel Gas Company and Hope Natural Gas Company agreement.

West Virginia Exhibit No 40, offered at page 1199, appearing at page 1777.

United Fuel Gas Company and Hope Natural Gas Company agreement.

West Virginia Exhibit No. 41, offered at page 1199, appearing at page 1780.

United Fuel Gas Company and Pittsburgh and West Virginia Gas Company agreement.

West Virginia Exhibit No. 42, offered at page 1199, appearing at page 1788.

United Fuel Gas Company and Pittsburgh and West Virginia Gas Company agreement.

West Virginia Exhibit No. 43, offered at page 1199, appearing at page 1291.

Columbia Gas & Electric Company and United Fuel Gas Company agreement.

West Virginia Exhibit No. 44, offered at page 1199, appearing at page 1800.

Columbia Gas & Electric Company and Ohio Fuel Supply Company and United Fuel Gas Company agreement.

W. W. FREEMAN.

Page 454:

The Union Gas & Electric Company, which supplies Cincinnati with natural gas purchases this gas from the Columbia Gas & Electric Company and the Ohio Fuel Supply Company, which latter company secures its gas from the United Fuel Company.

Page 458:

The Union Gas & Electric Company, of Cincinnati, Ohio, supplies gas to public institutions such as court houses, poor houses, hospitals, in Cincinnati, and during the winter months to the city water works plant of Cincinnati and the water works and municipal plants at Norwood.

JAMES H. REED.

Pages 500 and 501:

The Philadelphia Company supplies gas to various Federal and State institutions in Allegheny County, Pennsylvania.

Page 517:

The Pittsburgh & West Virginia Gas Company delivers gas to the Equitable Gas Company at the boundary line between West Virginia and Pennsylvania, as the result of a contract dating from the year 1917.

West Virginia Exhibit No. 3, offered at page 529, appearing at page 1729.

Pittsburgh and West Virginia and Equitable Companies Agreement No. 1.

West Virginia Exhibit No. 4, offered at page 529, appearing at page 1732.

Pittsburgh and West Virginia and Equitable Companies Agreement No. 2.

West Virginia Exhibit No. 5, offered at page 529, appearing at page 1733.

Pittsburgh and West Virginia and Equitable Companies Agreement No. 3.

West Virginia Exhibit No. 6, offered at page 529, appearing at page 1735.

Pittsburgh and West Virginia and Equitable Companies Agreement No. 4.

J E. ANGLE.

Page 535:

At the time that the Fayette County Gas Company sold its gas lines, territory and wells in West Virginia to the Hope Natural Gas Company it had entered into a contract with the Hope Company for the supplying of gas to the Fayette Company from the Hope. This contract was a written agreement, which has been previously offered in evidence as Pennsylvana Exhibit No. 21,—offered at page 225 (Sullivan), appearing at page 1560. Under this contract the Fayette County Gas Company is furnished from one and three-quarters to two billion cubic feet per year. For exact figures, see table appearing at pages 542 to 551.

Page 562:

Under the contract referred to above the Hope Company agreed to supply the Fayette County Gas Company with all the gas required for domestic consumption.

Page 563:

The Fayette County Gas Company entered into this contract with the Hope Company believing that the Hope Company would be able to supply it with gas in accordance with the provisions of the contract and furnish a supply sufficient for t domestic consumption of said Fayette County Gas Company for a period of 20 years the term of the contract.

MARTIN B. DALY.

Pages 570 to 572:

The East Ohio Gas Company, since its inception in 1898, has been procuring gas delivered to it from West Virginia by the Hope Natural Gas Company in accordance with a contract entered into with said Company. This contract is evidenced by Pennsylvania Exhibit No. 19,—offered at page 225 (Sullivan), appearing at page 1544.

Pages 574 to 577:

The East Ohio Gas Company supplies gas to various subdivisions of the State, such as municipalities, counties and school boards:

	Township trustees.	U. S. Govt.	State.	County.	City.	Schools.	Total.
Dennison	..	..	..	..	1	2	3
Kent	..	..	..	..	1	4	5
Ravenna	..	..	..	4	2	5	11
Youngstown	..	1	..	5	21	31	58
Girard	..	..	..	..	2	5	7
Hubbard	..	..	..	..	2	2	4
Struthers	..	..	..	..	2	3	5
Lowellville	..	..	..	..	1	..	1
East Palestine	..	..	..	..	2	1	3
Poland	..	..	..	..	1	..	1
New Middletown	..	..	..	..	..	1	1
Petersburg	..	..	..	..	..	1	1
Warren	..	1	..	2	4	9	16
Niles	..	..	..	..	4	3	7
Wooster	..	1	5	3	6	6	21
Orrville	..	..	..	..	1	3	4
Shreve	..	..	..	..	2	1	3
Loudonville	..	..	..	..	3	3	6
Barberton	..	..	..	..	..	3	3
Wadsworth	..	..	..	..	..	2	2
Doylestown	..	..	..	..	1	2	3
Millersburg	..	..	..	..	..	1	1
Danville	..	..	..	..	..	1	1
Gann (Brinkhaven)	..	..	..	..	..	1	1
	2	9	10	23	290	441	775
Cleveland & Suburbs	..	4	4	2	170	275	455
Akron	..	1	1	3	31	28	64
Cuyahoga Falls	..	..	..	..	3	1	4
Kenmore	..	..	..	..	3	2	5
Canton	..	..	..	2	11	17	30
North Canton	..	..	..	..	..	1	1
Massillon	..	1	..	..	7	10	18
Dover	1	..	..	..	4	6	11
New Philadelphia	1	..	..	2	3	9	15
Uhrichsville	..	..	..	..	1	2	3
Total churches and parsonages entire system						1,331	
Total charitable institutions entire system						202	
						2,308	

Page 590:

The East Ohio Gas Company is under contractual relations with various municipalities in Ohio to supply consumers therein with natural gas for a period of years.

Page 594 (Cross-examination):

By an additional contract with the Hope Natural Gas Company, the East Ohio Gas Company contracted with the Hope Company for an additional supply of gas in order to take care of the increased demand of the East Ohio Gas Company.

Page 596:

Prior to 1910 the contracts between the East Ohio Gas Company and the Hope Natural Gas Company for the sale and delivery of gas at the Ohio River were not in writing, although there was an understanding relative to same. In regard to contracts with municipalities, the East Ohio Gas Company is obliged by ordinance to supply these municipalities with gas to the extent of the ability of the Company.

T. J. JONES.

Pages 632 and 633:

The Pure Oil Company supplies gas to Federal and State buildings, schools and hospitals in the Cities of Columbus, Dayton and Springfield some of which are the Hospital for Feeble Minded, the Hospital for Insane, School for the Blind, School for the Deaf and Dumb, the Ohio State University, and all State institutions in the City of Columbus.

Page 635:

The Dayton Gas Company purchases or secured its entire supply of gas from the Logan Natural Gas & Fuel Company by virtue of a contract between the two companies, and depends entirely for its supply of gas upon the amount of gas that the Logan Natural Gas & Fuel Company can secure from West Virginia.

Page 641 (Cross-examination):

The Pure Oil Company has contracts for gas with the Ohio Fuel Supply Company.

Page 646 (Redirect Examination):

This Company contracted with the Ohio Fuel Supply Company for gas to be furnished Columbus in April of 1914, for Springfield in November, 1914, and for Dayton contracted with the Logan Company for June of 1916.

Page 648 (Recross Examination):

"A. I would be unable to say, as I said, from personal experience, what quantity of gas comes from West Virginia that is distributed in the cities of Columbus and Springfield, also in the city of Dayton, other than our contract specifically states that the gas we receive at Dayton comes from West Virginia through contracts held by the Logan Natural Gas and Fuel Company."

L. B. DENNING.

Page 656:

The Ohio Fuel Supply Company acquires its West Virginia gas by reason of contractual relations with the United Fuel Gas Company.

Page 697 (Cross-examination):

The Ohio Fuel Supply Company is demanding that there shall be a sufficient supply of gas delivered to it from the State of West Virginia for consumers in the State of Ohio because it has contracts for such.

Page 708:

The Ohio Fuel Supply Company has entered into contracts with consumers directly supplied by it, and also into contracts with the communities of Columbus, Springfield and Hamilton. The latter contracts contain provisions to the effect that the consumers who were a party to the contracts first mentioned are to be supplied with gas by the Ohio Company before the communities, and that the latter are to be entitled to only as much gas as might be left in the event of shortage after supplying the others.

J. W. McMAHON.

Page 718:

The entire supply of gas of the Northwestern Ohio Gas Company comes from the Hope Natural Gas Company.

Page 719:

The Northwestern Ohio Gas Company has contracted with the Hope Company for West Virginia gas.
Page 727 (Cross-examination):

The Northwestern Ohio Gas Company began to take gas at the Sugar Grove Station from the Hope Natural Gas Company in 1903 or 1904 under a written

contract. Pennsylvania Exhibit No. 16,—offered at page 224 (Sullivan), appearing at page 1509, shows an agreement between the Hope Natural Gas Company and the Northwestern Ohio Gas Company as of October 16, 1915. This is the contract under which the Northwestern Company is at present securing its gas.

Page 728:

"My statement is that if, owing to the enactment of laws by the state of West Virginia, whereby The Hope Natural Gas Company cannot deliver us the amount of gas, or a lesser amount of gas than they are now delivering us, that it will be detrimental."

Page 730:

"Q. Aside from the existence or operation of this statute, have you had, or do you now have in mind, any idea that the increasing shortage in West Virginia will interfere in any respect with the ability of The Hope Company to deliver gas to The Northwestern Company.

A. Well, I understand that The Hope Company have sufficient territory to give us a fair supply of gas in accordance with their contract if the gas can be delivered in accordance with their contract, but if diverted by law or in any other way, that it would interfere with their ability to furnish us."

EUGENE P. WHITCOMB.

Pages 765 and 766:

The Union Natural Gas Corporation, through subsidiary companies, entered into contracts with the Cen-

tral Indiana Gas Company, Central Contract & Finance Company and the Jantha Light & Heat Company to supply gas to various towns in Indiana and Ohio.

"All of the contracts to which I have referred and all of the towns supplied on these lines contemplated the use of nothing but West Virginia gas. There was a provision—in fact, the contract stated that they were not entitled to gas produced in the state of Ohio."

Page 768:

"* * * all contracts on the line from Sugar Grove to Dayton and Indiana contemplate and provide for the delivery of West Virginia gas only, and specifically recite the fact that the Union Natural Gas Corporation has available a large quntity of gas in West Virginia, and that they are not entitled to Ohio gas,* * *"

Page 769:

"* * * A new contract was made with the Dayton Gas Company (about 1915) which provided, as I stated, for the use of West Virginia gas only, and in 1913, in the early part of the year, contracts were made with the Central Indiana and other distributing companies within that state, which provided for West Virginia gas only; * * *"

Page 772:

The Union Natural Gas Corporation of Ohio has contracted with the Reserve Gas Company for gas. A new contract was entered into between said parties on April 11th, 1913, which is the contract under which these companies are operating at the present time. This

contract is referred to in Pennsylvania Exhibit No. 17,—offered at page 225 (Sullivan), appearing at page 1524. Under this contract the Union Natural Gas Corporation was to receive 12,000,000,000 cubic feet of gas per year. From 1904 to 1919, inclusive, under the contracts referred to, the Reserve Gas Company delivered to the Union Natural Gas Corporation 102,682,712,000 cubic feet of gas.

Pages 773 and 774:

During the years 1914 to 1918 the Union Natural Gas Corporation received from the Reserve Company the full amount of gas to which it was entitled, but it was obliged to take during the summer months an excess of gas. During the year 1919, however, the amount received by the Union Natural Gas Corporation was 2,400,000,000 cubic feet short of the amount to which it was entitled by virtue of the contract.

Page 783:

Any diversion of West Virginia gas from the Union Natural Gas Corporation would result in a shortage of gas to all the consumers supplied by the lines of said Company running west from Sugar Grove, the lines running north to Newark and Lancaster, and lines to Circleville, Chillicothe and Athens, Ohio. If the volume were to cease entirely, practically all of the service of said Company as outlined above would be put out of commission.

Page 784:

If under the operation of the West Virginia statute the Union Natural Gas Corporation were to receive no gas at Sugar Grove, the entire service of the Southern division of said Company would be demoralized.

Page 797 (Cross-examination):

There are a number of contracts made by the Logan Natural Gas & Fuel Company with different distributing companies, to-wit: Central Indiana Gas Company, located at Muncie, Indiana; Dayton Gas Company, at Dayton, Ohio; Richmond Light, Heat & Power Company, of Richmond, Indiana; Interstate Public Service Corporation, at New Castle, Indiana, and the Jantha Light, Heat & Fuel Company, in the Western part of Ohio. These contracts were all made during the year 1913 and provide, in express terms, that the gas delivered by the Logan Natural Gas & Fuel Company is to be West Virginia gas.

SAMUEL S. WYER.

Page 969:

"* * * where the gas, after severance is delivered to the lines in West Virginia where such lines deliver gas to lines in other states, the diversion of gas from those interstate lines in West Virginia would result in the inevitable voiding of contractual relationships and destroy many property rights, because of the inability of such West Virginia interstate lines, on account of such diversion, to meet their contractual obligations at the state lines, where the gas is delivered to lines in the other states. * * *

Note: In this connection the evidence under the VI heading preceding and the VIII following is not here repeated, this evidence showing that under the provisions of the statute of West Virginia these companies could not carry out the contracts referred to under the above heading.

VIII.

THE OPERATION AND EFFECT OF THE WEST VIRGINIA STATUTE WILL BE TO ABSOLUTELY PROHIBIT AT TIMES, DURING PERIODS OF COLD WEATHER, THE TRANSPORTATION OF GAS FROM WEST VIRGINIA INTO PENNSYLVANIA, OHIO OR OTHER STATES AND THUS DRIVE CONSUMERS OFF THE LINE ALTOGETHER AND FOR THE WHOLE YEAR.

Section 5.

HARRY A. QUAY.

Pages 43 to 47 and 1244:

If The Manufacturers Light & Heat Company were called upon to supply natural gas to meet the probable requirements of all industrial consumers of West Virginia, it would require between twenty-five and thirty-three million cubic feet per day. This estimate is based upon previous consumption of gas by various West Virginia industrial consumers, a partial list of which is given, and upon information as to what those industrials have informed the Manufacturers Company from time to time as to the amount of gas they would or might desire to use. At present these industrials are being supplied with about one million and a half feet as a minimum, and about 6,000,000 feet as a maximum, per day.

Most of the industrials, realizing the possibility of curtailment of their supply by the Manufacturers Company for the better service of domestic consumers, have

supplied themselves with fuel other than natural gas and installed apparatus for the production of producer gas, and some were using coal for fuel whenever possible.

Page 47:

"A. I would say that if my company was compelled to furnish gas in an amount equal to the possible requirements of all of our customers, connected to our lines in the State of West Virginia—and that would apply to all other companies in the State as well—that it would practically demoralize our business in the States of Pennsylvania and Ohio. It would make the physical operation of the property absolutely problematical; you wouldn't know what your requirements were going to be for a certainty in the State."

After referring to periods of the previous year when the Company was short of gas at various Pennsylvania and Ohio Cities the witness continued:

For that reason, I base my opinion, if we were called upon to supply ten, fifteen, twenty or twenty-five million feet a day in addition to the amounts that we were furnishing, or if that amount of gas was taken out of the distribution end of the States of Pennsylvania and Ohio and used in West Virginia prior to the time that it got into the lines in those two States, it would mean that there would be times there would be practically no gas in a great many lines of the company in the two States of Ohio and Pennsylvania."

Page 48:

"Again, if the service of a consumer is interrupted, no matter whether it is an industrial or a domestic consumer, he realizes that he can place no dependence on

the service; he was depending on it for heating, and he found he was not getting sufficient gas for that purpose, and was forced to put in a substitute fuel; if he could not secure gas for cooking purposes or lighting his home regularly, satisfactorily to him, he would be compelled to secure other fuel, substitute fuel."

Pages 50-51:

"Q. Under the present system of operation of your lines in West Virginia, state what the facts are as to the West Virginia consumers getting, during times of shortages at other points, their proportion of gas from the lines.

A. The domestic consumers in the State of West Virginia have not suffered any shortage.'

Q. You mean those on your lines?

A. On our lines. With the exception of the domestic consumers in the town of New Cumberland, Hancock County, West Virginia. The domestic consumers in Ohio have suffered shortages; the shortage the past winter in the city of Steubenville, for domestic consumers, at Martins Ferry, Bridgeport and Bellaire, Ohio, has been marked. The shortage for domestic consumers on the lines of our company in the city of New Castle has been very severe; there have been at least twenty-four different shortages in that city, some periods of time there being no gas whatsoever in the lines for their use. New Brighton, Beaver Falls, Rochester, various smaller communities in the Beaver Valley have experienced severe shortages. In the district, the domestic consumers in and surrounding Pittsburgh, Bellevue, Avalon, and in that territory have suffered three or

four severe shortages, in some cases there being no gas or not sufficient gas so that any would burn in their homes."

Page 131 (Cross-examination):

"If we were required to furnish amounts of gas which, for instance, our industrial consumers would like to have and would take, in West Virginia, the amount of gas which they would use and would take would be taken to the detriment of consumers further along in the states of Pennsylvania and Ohio and also West Virginia—that is, the domestic consumers. Take, in extreme cold weather, when the domestic consumer is using all the gas that he desires, if I were to permit the use of gas for industrial purposes, there would be a great shortage in the supply of gas to domestic consumers. It is by the discontinuing or curtailing of the amount of gas furnished industrial consumers that we can tide ourselves over during these cold periods, these peak load periods. In other words, we divert and give to the domestic consumer the gas that we have available, in preference to giving it to the industrial consumer. You can readily see, if I was called upon at times even for only a million feet of additional gas to factories, that would mean one million feet less for domestic consumers. There have been times that I have been short, that a million feet, if I had it available, would have prevented that particular shortage. Now, when that gets up to eight or ten million feet, and they take it out, and it is not permitted to be utilized for domestic use, the prospect of shortage becomes very much more acute.

Pages 133; 348 and 349; 586 and 587; 631 and 677:

Harry A. Quay, of the Manufacturers Company; John B. Corrin, of the Reserve, Hope, Connecting and other

companies; Martin B. Daly, of the East Ohio Gas Company; T. J. Jones, of the Natural Gas Properties of the Pure Oil Company; L. B. Denning, of the Ohio Fuel Supply Company; testimony summarized:

Natural gas constitutes the best fuel for domestic consumers in that it is especially adapted for lighting, heating and cooking purposes. It is much more economical than either electricity or coal and much cleaner than the latter. Its use results in a great saving of money and labor towards consumers.

HARRY A. QUAY.

Pages 41 to 43; 51; 52; 121 to 124; 147 to 150; 151 and 152, and 173 to 177:

This evidence may be summarized as follows:

In past years large quantities of gas had been furnished by The Manufacturers Light & Heat Company to various industrial plants in West Virginia, Pennsylvania and Ohio. Follansbee Brothers, for example, at Follansbee, West Virginia, required and obtained about 4,000,000 cubic feet per day at one time. At present, especially in winter, the supply of gas to industrial companies is very much restricted, and very little gas, at least when compared to the amount supplied to domestic consumers is being furnished to industrials. The gas companies have adopted the policy of curtailing in part, and sometimes almost altogether, the supply of gas furnished to industrial consumers. Industrial consumers in West Virginia have at times been furnished gas in preference to those in Pennsylvania and Ohio (p. 51). The gas companies in general operating in West Virginia, including The Manufacturers Light & Heat Company have entered upon a systematic campaign

of discouraging the industrials throughout the three States above mentioned from using natural gas, and every contract made by The Manufacturers Light & Heat Company with an industrial consumer contains a clause reserving the right to temporarily discontinue, in whole or in part, the supply of gas furnished such consumer in the event that the domestic consumers required all the gas which the company had available. In 1915 the Manufacturers Company had withdrawn their industrial schedules altogether. At various times the supply furnished industrial companies in Pennsylvania and Ohio had been entirely discontinued for periods of varying length. Pennsylvania Exhibits 2 to 8, inclusive, consist of letters which were sent out by The Manufacturers Light & Heat Company to industrial companies, advising them that the Company was not in position to furnish them with a full and adequate supply of gas.

But the industrial companies have not been entirely cut off from the natural gas supply by the gas companies, for the reason that at certain periods, as in summer, the companies have more gas than is required by the domestic consumers. Sales would be lessened if industrials were entirely cut off, and, as a consequence, the rate to domestic consumers would have to be raised in order that the Company might continue its operations under favorable financial conditions. For such reasons the companies find it impossible to discontinue entirely the sale of industrial gas.

T. O. SULLIVAN.

Page 217:

"Q. Now, from your recollection of the quantity of gas that was required by these industrial plants in

West Virginia, both from your prior and present experience, what do you say as to those industrial plants, if they could receive all of the gas they desired for all of their operations, having a demand sufficient practically to take most of the gas produced in the state?

A. In cold weather, when the demand of the domestic consumers would be large, if all the industries adopted the use of natural gas to meet all their requirements, then, in my judgment, there would be a demand to take practically all of the gas that the Hope Natural Gas Company produces. This might not apply to all portions of the State of West Virginia, but in the sections in which we are operating, there would be a demand for practically all of the gas that is being produced at those times."

Pages 226 and 227:

"Q. From your knowledge and experience in the natural gas business and the operation of natural gas companies, if those companies engaged in furnishing, or required by law to furnish, natural gas for public use, or for the use of the public, for domestic, industrial or other consumption, within the State of West Virginia, are compelled to furnish a supply of natural gas reasonably adequate for the purposes, whether domestic, industrial or otherwise, for which natural gas is consumed, or desired to be consumed, by the public, or any part of the public, within the State of West Virginia, within what length of time, in your opinion, would the demand for natural gas in the State of West Virginia, for domestic, industrial and other purposes, as defined by the Act now in controversy, take substantially all of the gas produced in the State of West Virginia?

A. If the different natural gas companies operating in the State of West Virginia were compelled to furnish all of the gas that might be required for use within the state, in my opinion it would be only a comparatively short time until there would be a sufficient demand to use all of the gas that is produced. I base this opinion upon the desires which have been expressed by different firms and persons using gas within the state, of what their requirements would be, if they could obtain all the gas they needed. I also understand that in certain industries natural gas is very much better adapted for certain purposes than any other fuel that can be secured. And in view of that, it would no doubt cause other manufacturers outside of the State of West Virginia, to locate in the state, on account of the advantages which they would obtain by the use of this fuel. Taking these matters into consideration, I feel satisfied that it would be only a comparatively short time, possibly a year, maybe two years, until there would be a demand developed within the state that would use all of the gas that might be produced."

Pages 222 and 223:

"Q. In the operation of a natural gas company, there is what is usually called, or frequently referred to, the peak load?

A. Yes, sir.

Q. Now, tell us what the peak load is, in your experience as a natural gas man?

A. The peak load is the demand created by the increased quantity of gas required by consumers on cold days and at certain hours of the day. In cold

weather, on an extremely cold day, the demand of the average domestic consumer will be from four to five times greater than it is on the normal day. Then there are certain hours in the day when the demand is very considerably increased above the normal demand; that is, from about 6:30 to 8:30 in the morning, during the time that breakfasts are being prepared. Then again, from about 11:30 to 1:30 in the afternoon, while the mid-day meal is being prepared. And again, from about five o'clock in the evening to seven o'clock, when supper is being prepared. This creates a very increased demand, which probably at times is as high as 15 to 20 times more than the regular average daily load. Of course, the demand in the winter season—the normal demand in the winter season, is considerably larger than the normal demand in the summer season, probably about four times.

Pages 214; 226 and 227, and 300 to 302, summarized:

Under the operation of the West Virginia statute the industrial consumers in West Virginia would demand and consume an amount of natural gas greatly in excess of the amount they at present are consuming or being furnished with by the gas companies. Natural gas is the fuel best adapted for the purpose of those industrial consumers and if under the operation of the statute such industrial consumers could obtain all the gas they desired, various other industrial plants would be tempted to locate in West Virginia, which would account for the consumption of a large additional amount of natural gas. The demand which would be worked up by the industrial consumers in West Virginia under the advantages of the statute would very shortly reach a point where there would be no gas left for exportation to other States. As to the industrial consu-

mers now supplied, or reasonably close to the lines of the Hope Natural Gas Company, it would take between sixty and seventy-five million feet of gas per day to fulfill their demands if the provisions of the statute were enforced.

Pages 214, 215, and 222:

It is estimated that under the operation of the West Virginia statute if the West Virginia consumers could get all the gas they wanted it would amount to from 60,000,000 to 75,000,000 cubic feet per day, and that this would result in making the service to all the other companies—that is, other companies buying, selling and producing gas and buying some of it from the Hope—to which the Hope Company was supplying gas, very unsatisfactory and inadequate for the requirements of the customers of such companies. On cold days, assuming the increase in demand under the operation of the statute, the Hope Company would be able to give practically no service to any of the companies purchasing gas from it outside of the State for the service would be so poor that it would be practically of no value to the consumers of those companies. Owing to the present shortages which exist in Pennsylvania and Ohio, any additional quantity taken out of the lines would have a very detrimental effect on the service in other States.

Pages 221; 288 and 288 to 290, summarized:

It is the general rule of all companies engaged in the natural gas business, as well as of the Hope Natural Gas Company, to give preference to domestic consumers over industrial consumers in the event of a shortage of gas on the line, when there is not sufficient to supply both

and this has been the general rule for many years, despite the fact that since the industrial demand is more uniform and regular over the entire year than the domestic gas companies would prefer to serve the former. But, for the reason that at certain periods during the year the companies have more than sufficient gas to supply the requirements of domestic consumers, it is still necessary to dispose of the surplus to industrial consumers since this obviates the necessity for higher rates to domestic consumers. That is, the companies are enabled to give a lower rate for domestic service by reason of the income and return received from the industrial service.

JOHN B. CORRIN.

Pages 326 and 327:

"Q. What would be the effect upon the practical operation of the lines of the Reserve Natural Gas Company, if it were compelled from time to time, especially on the coldest days or periods of winter, to make connections with and supply other public utilities in the State of West Virginia than those with which it had contracts, and for which it had made provisions?

A. First, it would be very dangerous. I do not see how it would be possible to operate any gas system of lines if you could not determine the amount of gas that was going to go through those lines and have some person or city, or otherwise, take gas off the line before it reached your consumers. In addition, you could not retain any of your consumers yourself, because the service that would be rendered would be uncertain and undependable; and in fact, I don't believe that it would be practicable to maintain a gas company if that condition existed.

Q. From your knowledge of the demand for gas in the State of West Virginia at the present time by other public utilities, industrial consumers, domestic consumers, and others in the State of West Virginia, what do you say if their demands and requirements were first fully supplied, as to whether or not you could carry out your contracts and transport the gas produced by you out of the State of West Virginia?

A. We certainly could not live up to our contracts, and in addition, it would practically make a whole lot of our equipment and lines a lot of junk, without value.

Q. Would the present requirements and demands of domestic, industrial and other consumers in the State of West Virginia, in the coldest periods of the year, be sufficient, practically to take all the gas produced and transported by your company and the other natural gas companies in the state?

A. I don't believe there would be very much left to go through our lines out of the state, if all the demands were met."

Page 327:

The variation between the normal demand and the peak load demand among domestic consumers was about 500 per cent.; that is, the peak load is about six times as great as the normal demand. In the industrial service, however, the variation is not very great.

Pages 328 and 329, summarized:

The Reserve Gas Company did not desire any more permanent industrial consumers than they already have,

and in line with the policy of the other companies, discouraged industrial consumption. However, in order that the business might yield profits, the Reserve Company found itself compelled to sell some gas to industrials in order to get rid of gas at the time when in spite of specific requirements of the domestic consumers there was still surplus gas.

Page 330:

"Q. The population in the States of Ohio and Pennsylvania that is supplied with natural gas and uses it for domestic purposes,—are you familiar with the conditions under which the gas is thus consumed?

A. I believe I am.

Q. And will you tell us now, just as graphically as you can, what the effect would be upon those consumers, if from time to time the operation of your lines was interfered with, as you have described by the supplying of gas to other utilities, or industrial consumers, on cold days, in West Virginia, under the provisions of this Act in controversy here?

A. I can't imagine how it would be possible for us to retain our consumers at all, if they were going to be subject to that interrupted service; but I don't think that people would be annoyed by the interrupted service. Another thing,—I think it would be extremely dangerous to have interrupted service. It might be that the gas would go off, practically entirely off, and come on again. It might blow up their houses. And the discomforts that people would undergo, I think they would not be annoyed by it and would put it out of their houses."

H. A. WALLACE.

Pages 368 and 369:

"Q. If your company was compelled to supply, under the terms of the proposed legislation, which we are now resisting, an adequate supply to fill the requirements of the domestic, industrial and other consumers of the State of West Virginia, before taking any of the gas outside of the state, what, in your opinion, would be the effect of this upon your ability to transport any gas out of the state?

A. I feel that in a very short time, in cold weather especially, we would have no gas to transport out of the state, and for that reason I do not believe domestic consumers and other people would care to be connected to our lines, if they could only receive a supply of gas during the summer season, and in the winter time, when they absolutely needed the gas for heating and lighting and comfort, to have the supply discontinued, they naturally would not care to use gas for fuel."

Pages 369; 370, and 371, summarized:

Under the operation of the West Virginia statute the demand for gas for industrial purposes in West Virginia would so increase that in the course of a year, or a year and a half, practically all the natural gas produced in West Virginia would be sold in that State for manufacturing purposes. This opinion is based upon the applications for gas which have been received by the United Fuel Gas Company from big industries. Filling the requirements of these applications would take between seventy-five and one hundred millian cubic feet of gas per day, and if these requirements were satisfied there

would be no gas exported from West Virginia for domestic purposes in winter time. The carbon black industries, which are especially wasteful in their use of natural gas, from the nature of the industry and the way in which natural gas is used therein, and which nevertheless can use natural gas profitably, would resume or recommence the use of gas from which they are at present cut off, with the natural effect of further reducing the amount available for exportation from West Virginia. Further, it would be impossible to construct lines, compressing stations and field equipment in such a way that the demands of other consumers than the industrials could be taken care of, assuming that the requirements of the latter must be met first.

JOHN B. TONKIN.

Page 423:

The Peoples Natural Gas Company also discourages the use of gas by industrial consumers. At one time the industrial supply was almost entirely cut off. Domestic consumers are always given the preference over industrials, who are shut off from the supply of gas at the approach of cold weather or when the pressure in the lines of the company begins to decline. The contract of the Peoples Company with industrials contains a clause much to the same effect as that of the Manufacturers Company, to-wit, that in case of shortage the domestic requirements will be met before the industrial.

The Peoples Company, however, still does supply some gas to industrials, for the same reason as given by Mr. Quay and Mr. Sullivan in regard to the policy of their respective companies; that is, that during the periods of warm weather, when the domestic demand

is very light, it is either necessary to dispose of surplus gas to the industries in order to preserve low rates to domestic consumers, or to shut in their wells altogether. Where fields are competitive, that is, where other gas companies operate in the same district, or where certain large industrial concerns obtain gas from their own territory for their operations, it is not feasible to shut in the wells, since the gas from these wells would no doubt be drained by the operations of the competing companies and by the above named industrial companies owning their own wells. Where, however, the fields are not competitive, the gas wells are actually shut in in preference to supplying industrial consumers.

On pages 437 and 438 it was said:

"Q. How does the industrial gas business keep down the price to the domestic consumers?

A. If we were to depend entirely upon the domestic consumer for our revenues, and he doesn't use hardly any in the summer time, we wouldn't have money enough for operating; it would be necessary to charge him several times the price that he is being charged now, the price for that service."

Pages 423 and 424:

The variation between normal demand and the peak load demand in serving domestic consumers is about 1,000 per cent. The greatest peak load occurs during the winter, and occurs every winter, and the peak load is higher during some hours in the day than during others, both summer and winter, when, for instance, all appliances are turned up to heat houses and cook breakfast.

Pages 428 and 429:

"Q. Now, then, what would be the effect upon the operation of your company, if, under the provisions of the Act of Legislature in controversy here, the Hope Company should be compelled to make connections with other companies to supply their deficit, or should be compelled to supply the demands of the consumers in West Virginia with gas before making deliveries to you? What would be the effect?

A. Well, the result would probably be that on extremely cold days there would be very little, if any, gas come north through the lines connecting with the Hope Company. It would create a situation that would leave us practically without gas, and what little gas we would have left would be scattered around to so many places, and we would have to try to do so much with so little gas, that we wouldn't have any service. It would also create a dangerous situation, where the gas would go out, no doubt, in a number of places. In fact, it would demoralize the operation of the company."

Page 429:

"Q. Would that demoralization go to the extent of substantially shutting down your operations?"

A. I think that after one winter of that, our consumers would probably want to leave us; that they wouldn't put up with the inconveniences and the suffering that they would have to go through, under those conditions."

Page 429:

"Q. From your practical knowledge and information as to the operation of natural gas lines, and your familiarity with the Hope Company, by reason of your official connection therewith, what do you say as to those demands, such as I have described, being such as to demoralize or interfere with the whole operation of the Hope Company's system?

A. Well, I know that during my connection with the Hope Natural Gas Company there were a great many requests of other gas companies and other consumers for a supply of gas, and it is my opinion that the demand on their lines would be so great from companies doing business in West Virginia and from industrial plants there, that there would be no gas left in cold weather to distribute to the Peoples Natural Gas Company."

JOHN B. TONKIN.

Pages 445 to 447:

JOHN B. CORRIN.

Pages 326 and 327:

JAMES H. REED.

Page 526:

Under the operation of the West Virginia statute, even eliminating from consideration the increased industrial consumption in West Virginia there would be enough gas taken out of the lines by increasing the do-

mestic consumption and by making other connections to very seriously cripple the service to Pennsylvania and Ohio consumers on cold days.

W. W. FREEMAN.

Pages 458; 475 and 476, and 477, summarized:

In cold weather the Union Gas & Electric Company cuts off industrial consumers, including those owning power plants, entirely. The curtailment of gas by the Union Company to industrial consumers had somewhat ameliorated the condition of existing shortages, although it had not altogether met it. However, it was not practicable to cut industrials from the lines of the company's consumers altogether because the income received from the sale of gas to industrials during the time of light demand by domestic consumers enabled the Company to give domestic consumers lower rates.

JAMES H. REED.

Pages 525 and 526, summarized:

Because the income received from the sale of natural gas to industrial consumers in warm weather, when there was more than enough gas to supply domestic consumers, enabled the Company to maintain lower rates to the domestic consumers, the Philadelphia Company, despite the limited and insufficient gas supply in general, still continued to serve industrial consumers to some extent.

Pages 561, 562, 578, 579, 603, 634, 680, 681, 722, 781 and 793; summarized:

J. E. Angle, of the Fayette County Gas Company; Martin B. Daly, of the East Ohio Gas Company; T. J. Jones, of the natural gas properties of the Pure Oil Company; L. B. Denning, of the Ohio Fuel Supply Company; J. W. McMahon, of the Northwestern Ohio Natural Gas Company, and Eugene P. Whitcomb, of the Union Natural Gas Corporation, all testified that it is the uniform policy of natural gas companies to prefer domestic consumers to industrial consumers and that industrial consumers are supplied with natural gas only during the summer months when there is a surplus available; and, further, they reserve the right in their contracts to and actually do discontinue to industrial users the supply of gas at any time without notice if, in their judgment, that is necessary. These witnesses further state that the Public Utilities Commission of Ohio in its administrative orders to the natural gas companies of Ohio, directs the gas companies in case of shortage, to cut off all classes of consumers other than domestic consumers, to the end that the domestic consumers may have the first and prior right to gas. Regardless, however, of any administrative orders on the part of the Public Utilities Commission of Ohio, the gas companies, as a matter of uniform practice, limit the service furnished the industrials and at all times give preference to the domestic consumer.

Ohio Exhibits Nos. 3 to 9, inclusive (offered page 681), consist of copies of administrative orders of the Public Utilities Commission of Ohio relative to discontinuing the furnishing of gas to industrial consumers in Ohio during the years 1916 to 1920, inclusive. The exhibits appear on pages 1695-1706 of the record.

MARTIN B. DALY.

Pages 587 and 588:

"Q. Mr. Daly, if, under the provisions of the statute in question in this proceeding, the Hope Natural Gas Company were compelled to divert to new or other persons, firms or corporations in West Virginia, than it now serves, a material amount of gas which it has been and is now furnishing to your company for distribution, what would be the effect thereof on the operation of your company, and especially in the cold day periods of the year?

A. Any act on the West Virginia authorities that would decrease our present supply would naturally affect the domestic user of gas, inasmuch as we are now facing a shortage of 75,000,000 feet per day, so that any additional amount that might be taken away from the Hope Natural Gas Company would affect our supply to that extent. It is our only source of supply, outside of a small production in Ohio, which we have been unable to increase, notwithstanding active operations and diligent work on the part of the company all the time, seeking an adequate supply there."

Pages 588 and 589:

"Under those circumstances then, if the authorities in West Virginia, pursuant to the Act in question here, were to divert to persons, firms or corporations in West Virginia for the service of the public, or any part of the public, for all purposes, in the State of West Virginia, a substantial amount of the gas that otherwise would come through the Hope Natural Company's lines to your company, what effect, if any, would that have with refer-

ence to the disorganizing and breaking down or destroying the operation of your Company?

Q. Confine yourself to the question for the moment, please with regard to the extent of the wreckage on your company's service, and the effect on your customers.

A. The effect on our gas consumers would be that they would be obliged to discontinue natural gas altogether. That must be the ultimate result."

Page 611:

The East Ohio Gas Company, supplying, *inter alia*, the City of Cleveland, suffered a shortage of about 60,000,000 feet during the preceding winter. During the winters of 1917 and 1918, 20,000 homes in Cleveland were cut off from any gas at all because of the Company's inability to furnish gas.

Page 606, (Cross-examination):

When the supply of gas furnished by the Hope Natural Gas Company under its contract with the East Ohio Gas Company is reduced by 25 per cent., the supply will be so inadequate for the demands of the business that it would practically be at an end for anything except cooking or lighting. The user will not tolerate a service so inadequate as the company would be able to give under those conditions.

T. J. JONES.

Page 635:

The only source of supply for the Dayton Gas Company is the gas received from the Logan Natural Gas

and Fuel Company, which Company secures the gas from West Virginia exclusively. The supply at Dayton has been inadequate in the winter time to the extent of 50 per cent. of the requirements, if not more.

Pages 635 and 636:

"Q. What would be the result if the supply of West Virginia was cut off further by reason of the enforcement of the Act in question?

A. The Dayton Gas Company, depending entirely upon its supply from The Logan Natural Gas and Fuel Company, which company secures the gas from West Virginia, and having no other source of supply, if the gas was cut off entirely, would immediately have to turn to other fuel. If the gas was only partially curtailed the consumers would have to be limited undoubtedly to cooking, heating water, some lighting and perhaps a little auxiliary heating.

Q. Well, what would be the effect upon your company in a business way, Mr. Jones?

A. The earnings of The Natural Gas Company depend upon the volume of gas which it can sell at the present prices. Either The Dayton Gas Company would have to receive a much larger price for its gas or they would go into the hands of a receiver."

L. B. DENNING.

Page 672-673:

"A. I understand your question to be what effect the diversion of a substantial amount of the gas received from West Virginia would have upon the opera-

tions and property of The Ohio Fuel Supply Company and the people whom it serves. Is that a correct conclusion?

Q. That is correct.

A. A very disastrous and destructive effect upon both, of course more or less dependent upon the quantity of gas diverted. A substantial quantity diverted would have the immediate effect of disorganizing and disarranging the service to the consumers throughout the state, make necessary the entire elimination of service from a considerable number of consumers, a complete rearrangement of lines, compressing stations and operating conditions of the company and undoubtedly deprive a considerable portion of the people served by the company, of gas service, thereby destroying the investment which they have in appliances, and also, result in a destruction of a considerable portion of the company's property, by reason of the fact that it would no longer be of any value or use in the company's operations, and would not have any value whatsoever, except what might be possibly obtained from a resale or junk or a salvage value. It would necessitate—I think I have already said—a complete elimination or discontinuance of service to a considerable number of consumers."

Page 673:

"A. Last winter during the cold period, the Ohio Fuel Supply Company did not have enough gas from all sources produced or purchased in Ohio, and including the gas delivered to us from West Virginia, to supply cold-weather-demands of its consumers. To divert or discontinue or take away the supply of gas from West Virginia would leave Columbus absolutely with-

out gas; that is, when I say 'absolutely,' I mean without any dependable gas service at all, and to all practical effects absolutely without gas."

Page 674:

"A. The Northwestern Natural Gas Company, as I have said before, is wholly dependent and has been for years, upon the supply of gas produced in West Virginia, and delivered to it by us. Were that flow to be interfered with or to be stopped it would mean total destruction of natural gas service in those communities which it serves."

Pages 674, 675, 677:

If the supply of gas of the Northwestern Natural Gas Company, which is wholly dependent upon gas produced in West Virginia, were to be interfered with or stopped it would mean a total destruction of natural gas service in the communities which this company serves.

It is absolutely essential to natural gas service that there be continuity in that service. The consumer must have the gas coming to him in an even flow at all times for his demands. Any interference with that continuity of service results in disruption and unsatisfactory service to the consumer for the value of gas service to the consumer lies in the continuity of it. The problem of a gas company has always been to supply that instantaneous demand and maintain the continuity of service. To have any considerable or substantial quantity of gas diverted or eliminated from the West Virginia supply means to so disarrange, disorganize and discontinue the service to the consumer as to render it practically worthless to the consumer.

J. W. McMAHON.

Page 721: Summarized:

In 1910 the amount of gas sold for domestic purposes by the Northwestern Ohio Natural Gas Company was just short of 3,000,000,000 cubic feet; for industrial purposes 103,786, 000 cubic feet; total 3,103,695,000 cubic feet. In 1919 the domestic consumption was 5,689,621,000 cubic feet; industrial, 313,948,000; total 6,003,569,000 cubic feet. Similar figures are given for all of the years between 1910 and 1919, showing a rather steady increase from the earlier date to the later.

Pages 724, 725:

If under the operation of the West Virginia statute, the amount of gas that the Hope Company might be able to furnish to subsidiary companies in Ohio were curtailed it would cause great hardship in those communities which these companies serve. If the curtailment in the supply furnished were very extensive it would cause during the winter months almost a total cessation of the supply of gas to consumers and would cause irreparable damage to the people and would be a detriment to their health and dangerous to their property. It is absolutely necessary in the service of gas, if that service is to be dependable and worth while to a consumer, that it flow from a source of supply which is uninterrupted and continuous.

L. B. DENNING.

Pages 711 and 712:

The term "peak load" means the greatest amount of gas which a domestic consumer requires to meet his

needs during extremely cold weather. During cold weather everyone turns on the gas and as a result the demand becomes a peak very much greater and the quantity of gas required is at once increased. This is a seasonable demand, a seasonable peak load which always comes during the winter. It may last for a day or two at a time, or it may last for two or three weeks, depending entirely on weather conditions, which cannot be forecast.

There is also a daily peak load due to the fact that the demand for gas during the day is greatest at the breakfast hour, at noon time and in the evening, when meals are prepared.

EUGENE P. WHITCOMB.

Pages 767 and 768:

"A. We have approximately two and a quarter million feet left in the old Sugar Grove field that would be available for distribution at Sugar Grove. If there was no West Virginia gas delivered at that point, however, there wouldn't be a cubic foot of gas going through this 18-inch line—

Q. Which 18-inch line?

A. The 18-inch line supplying Dayton, the Jantha Light & Heat, and all the service now being supplied in Indiana, also including the City of Lancaster, in Fairfield County, Ohio. Now, as I have stated, there is approximately two and a quarter million feet of gas from the old field, or local field, available to the Logan Natural Gas & Fuel Company, which they are using at the present time.

Q. Where?

A. Distributing to these other towns. I was just about to say that the Logan Company owns its own distributing plant in Chillicothe and at Sugar Grove; and the Circleville plant, owned by the Buckeye Gas Company, being another subsidiary of the Union Natural Gas, is dependent altogether on the Logan Company for its sole supply. In addition to being obliged to discontinue the service altogether from these places mentioned, from the Sugar Grove-Dayton-Indiana lines, the City of Athens, in Athens County, Ohio, is entirely dependent upon West Virginia for its supply; the line being connected to the two 16-inch lines of the Connecting Gas Company, running from the Ohio River to Sugar Grove station. The two and a quarter million cubic feet, to which I have referred as being available in the Sugar Grove field, would be inadequate to supply the service at Circleville, Chillicothe, Sugar Grove and a few other smaller towns in that locality; in fact, there wouldn't be one-fifth of the amount which they require. And in view of the fact that all contracts on the line from Sugar Grove to Dayton and Indiana contemplate and provide for the delivery of West Virginia gas only, and specifically recite the fact that the Union Natural Gas Corporation has available a large quantity of gas in West Virginia, and that they are not entitled to Ohio gas, consequently that two and a quarter million which we have in the local field would not be available for any of that service."

Page 783 (Cross-examination):

"Q. What would be the effect upon your distribution system, and your supply to your company, if, for any reason, the supply from West Virginia would be-

come intermittent and irregular, sometimes—to illustrate—coming as it is now under your contract and then again being substantially denied to you?

A. It would probably result in the loss of all of the service under the contracts to which I have referred, by reason of being unable to give them a continuous supply. They would probably discontinue the use of natural gas altogether."

J. K. ANDERSON.

Page 824:

Pennsylvania Exhibit No. 33—Anderson, offered page 824 of the record, appearing page 1573: "Estimate of Monthly and Yearly Sales of Natural Gas in West Virginia" to domestic and industrial consumers, respectfully.

"Q. Have you made any computation and estimates of the quantity of gas which the industrial plants in West Virginia would take per year, if they could get a full and continuous supply?

A. I have made two such estimates, based upon the reports of the maximum monthly sales in any one month to domestic and industrial consumers of the twelve largest gas utilities doing business in West Virginia, which reports were made to me in writing by letter. The first show the increased demand per annum in excess of the present sales which the industrial consumers would make upon the utilities by reason of the operation of the act in question, amounting to 98,628,380,000 cubic feet; second, showing the increased sales

per annum of gas which would be made to industrial consumers under the operation of said act, amounting to 55,017,359,000 cubic feet."

(Note: For the manner in which this estimate was reached, see above exhibit.)

Pages 825-826:

"Q. From the figures and estimate which you have made with reference to the increased consumption of industrial gas in the State of West Virginia, under the operation of the Act now in controversy, if it goes into effect, state whether or not, in your opinion, that increased consumption would consume substantially all of the gas produced in West Virginia?

A. It will, within a few years.

Q. Within what length of time would you say?

A. I would say within a year and a half from the date of the effectiveness of the act."

Pages 827 and 828:

"Q. What would be the effect upon the operation of the interstate gas companies, or those transporting gas from West Virginia into the other states, of the enforcement of the provisions of the Act now in controversy, with respect to the transportation of gas from West Virginia into other states?

A. The chief effect upon the large utilities would be to disorganize their operations because of changing the direction and amounts of gas from those for which their plants were designed to meet demands which were

unforeseen, and which, being caused by the deficiency in supply of gas produced by small local companies, would come at times of greatest demand upon their own consumers, this great deficiency in supply to the consumers in other states during extreme cold weather would cause great distress and suffering and be attended with danger of possible death from asphyxiation."

Page 839 (Cross-examination):

The peak load refers more especially to the load placed upon the utility by the demands of the consumers during extremely cold waves and wouldn't cover an entire month.

SAMUEL S. WYER.

Pages 894 to 903; 911 and 912:

Pensylvania Exhibit No. 41—page 1593 of record; offered, page 895 of record; title, "Volume Natural Gas and Per Cent of State's Total Production Exported From West Virginia."

	Billion cu. ft. of gas exported:	What per cent. of gas produced in W. Va., was exported:
1906	62	50
1907	65	54
1908	62	55
1909	95	58
1910	120	63
1911	132	64
1912	151	63
1913	154	63
1914	150	63
1915	154	63
1916	194	64
1917	193	64
1918	156	60

Pennsylvania Exhibit No. 42—page 1594 of record; offered, page 897 of record; title: "Billion Cubic Feet Natural Gas Consumed per Million Population in West Virginia, Ohio and Pennsylvania."

	Pennsylvania	Ohio	West Virginia
1906	22	17	52
1907	22	18	55
1908	22	19	57½
1909	22	21	60
1910	22	22	63
1911	20	23	64
1912	22	27	75
1913	22	27	74
1914	20	27	71
1915	22	27	70
1916	23	32	76
1917	23	32	81
1918	20	27	75

Pennsylvania Exhibit No. 43—page 1595 of record; offered, page 897 of record; title, "Total Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio and Pennsylvania."

	Annual volume in thousand cubic feet consumed in Ohio.	Annual volume in thousand cubic feet consumed in Pennsylvania	Annual volume in thousand cubic feet consumed in West Virginia.
1906	230	590	1070
1907	220	550	1000
1908	190	440	860
1909	220	550	1060
1910	230	525	890
1911	195	470	925
1912	195	500	1010
1913	190	440	950
1914	190	400	885
1915	190	400	820
1916	200	430	850
1917	185	420	880
1918	165	370	855

Pennsylvania Exhibit No. 44—page 1596 of record; offered, page 897 of record; title, "Industrial Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio and Pennsylvania."

	Annual volume in thousand cubic feet per domestic consumer consumed in Ohio	Annual volume in thousand cubic feet per domestic consumer consumed in Pennsylvania	Annual volume in thousand cubic feet per domestic consumer consumed in West Virginia
1906	150	440	925
1907	110	400	825
1908	85	340	685
1909	105	420	890
1910	100	380	730
1911	100	340	770
1912	100	360	835
1913	100	325	800
1914	100	280	720
1915	100	280	665
1916	100	320	700
1917	75	280	720
1918	50	245	685

Pennsylvania Exhibit No. 45—page 1597 of record; offered, page 898 of record; title, "Domestic Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio and Pennsylvania."

	Annual volume in thousand cubic feet per domestic consumer consumed in Ohio	Annual volume in thousand cubic feet per domestic consumer consumed in Pennsylvania	Annual volume in thousand cubic feet per domestic consumer consumed in West Virginia
1906	110	150	180
1907	115	150	180
1908	100	140	170
1909	115	135	157
1910	125	130	165
1911	100	120	160
1912	105	140	170
1913	95	120	160
1914	100	120	160
1915	100	120	160
1916	100	120	150
1917	120	140	170
1918	110	125	170

Pages 905 and 906:

"Q. What is the number of towns that would be affected outside of West Virginia by diminishing or inhibiting the transmission of gas from West Virginia to those respective towns.

A. About 650.

Q. And what number of consumers would be likewise affected?

A. Over a million.

Q. And what population?

A. Over five million."

Page 909:

"Q. What do you say as to the maintainance of gas pressures in the lines to suit the operating conditions of the lines from West Virginia to the various points of consumption outside of the State, even to the remotest point?

A. The pressures maintained in West Virginia must be such as will properly feed into the transmission scheme as a whole, and must be subordinated to the operating conditions necessary to deliver gas to the various communities en route along the various transmission lines going out of the state."

Pages 909 and 910:

"Q. What would be the effect of making physical connection in West Virginia between those interstate lines and local lines or communities, as is provided for in the statute now under discussion, as to the service on the lines of such interstate companies?

A. The immediate practical effect of making such connections would be to demoralize in all cases, and in many instances destroy entirely, the interstate service for natural gas transmission, in towns outside of West Virginia.

Q. Will you explain this a little more fully, and tell us why this result would follow?

A. For instance, in gas transmission, the gas is not only the commodity that is being transmitted through the line, but it is within itself endowed with an inherent energy for propelling itself along the line by

virtue of its own expansion. That is, the gas flow in these interstate main transmission lines is always by expansion. The gas is never pushed forward like a plug of incompressible fluid, like water or oil, and any disturbance or any removal of gas by diverting part of that gas out of the line, has the effect of not merely lessening the flow, but disturbing the transmission conditions all along the line. This, for instance, is in marked contrast to what can be done with other commodities. For instance, a train of coal cars starting in West Virginia for Toledo, Ohio, the train itself has no physical connection and no dependence on other trains ahead or behind it. Each train goes along as an independent unit, and each car on the train is an independent unit. The shunting off in West Virginia of one or more coal cars from such a train would not in any way affect the other cars en route or the other trains en route. However, the shunting off from an interstate transmission line of a certain amount of natural gas would not only bring about a shrinkage in volume by an amount equal to that so removed, but may so disturb the pressure conditions as to demoralize the transmission conditions all along the line.

Q. What would you say as to the interstate service, such as is now being supplied, being possible when and if such connections are made from time to time, for uncertain quantities at unexpected and unprovided for times, to meet the shortages that might occur in the State of West Virginia, and which these companies engaged in interstate transmission of gas would be called upon to supply under the terms of the Act in controversy?

A. If the diversion were done to any extent at all, it would result in demoralizing all such service and ultimately destroying it entirely."

Page 911:

"Q. Would it be possible as a practical operating operation to rearrange these transmission lines or reconstruct the same, so as to provide for the contingencies possible under the operation of the Act in controversy, say in West Virginia?

A. It would not, for the very simple reason that the enforcement of this Act would merely kill all interstate shipments of natural gas out of the State of West Virginia.

Q. If there should be supplied to all the industrial, domestic and other consumers in the State of West Virginia an adequate supply of natural gas before the same were transmitted outside of the State, what would be the effect as to the quantity of gas, if any, that would be left for transmission outside of the state?

A. There wouldn't be any left to transmit."

Page 914:

"Q. If you can't give us any figures, can you give us an estimate of what would be the effect upon the public, such as domestic consumers and their families, in the other states than West Virginia, of the enforcement of this statute, referring to those who are now using natural gas as fuel?

A. It would deprive all such consumers of natural gas service."

Pages 914 and 915:

"Q. if the companies engaged in the business of

supply gas from West Virginia to the communities in other states, as has been described, should not adopt the policy of cutting off all such service under the operation of this act, and of notifying the consumers to discontinue all such consumption, and continued their business as now, taking their chances under the operation of this Act, what would be the effect, in your opinion, as a natural gas expert and with your knowledge of the situation, upon the health and life and comfort of those domestic consumers who are using natural gas in other states, transported from West Virginia?

A. I do not believe that in the operation of the Act any one of those interstate lines would attempt to use natural gas, for the simple reason that there wouldn't be any, so the effect on health would be that they would have to get other fuel for heating and cooking, and something else for lighting. As far as convenience is concerned, there is nothing they could get that would be in the same class with the natural gas of which they had been deprived. That is, to state it this way, the operation of this law in West Virginia for most of these towns depending on these interstate lines, there would not be left any twilight zone for discussion. The gas would all stay in West Virginia."

Pages 969 and 970 (Cross-examination):

" * * In answering the questions on direct examination, in regard to the effect of the enforcement of the West Virginia Act, with which we are concerned in this case, did you have in mind that under the operation of that statute, every person in West Virginia who desired to consume natural gas for domestic or industrial purposes, would be entitled to, and would, in fact,

demand and consume all of the natural gas which he desired as long as there was any natural gas produced in the state?

A. The enforcement of the act in question would immediately bring about a condition where, in the immediate future, the demand solely within the State of West Virginia for natural gas would be greater than the available supply, and there would be no gas left for interstate transportation through the main lines now going out of the state."

Pages 970 and 971:

"Q. Have you figured or formed any estimate in figures of the amount of increased demand from the Hope Natural Gas Company under this statute for domestic uses or industrial uses and by reason of physical connection of local Gas Companies?

A. The increased demand for domestic gas in West Virginia would be negligible. Practically all of the gas would be used in industries; that is, the gas that now goes out of the state, if you were to hold that within the state, there would be very little difference in the amount of that that would go to the domestic consumer. You are now using very much above the average per domestic consumer and practically all the gas that now goes to export would be used by industries within the State."

H. E. NEASE—WITNESS FOR DEFENDANT.

Page 993:

There has been a considerable decrease in the amount of gas used in the manufacture of carbon black within the last two years.

CHARLES E. KREBS—WITNESS FOR DEFENDANT.

Pages 1099 to 1101; 1104 and 1105; 1113; 1130 and 1131 and 1137:

The gas used in making carbon black was generally located at some isolated field or place, that is, some distance away from a market where it could be consumed. The gas used is usually very light pressure gas, of much lower pressure than could be transported through pipes of its own accord. Most of the industries engaged in the manufacture of carbon black produce the gas for that purpose from their own wells. Carbon black is manufactured in West Virginia, Oklahoma, Louisiana and Pennsylvania. It is used for printers' ink, automobile tires, black and gray paints, ships, structural iron, carbon paper, typewriter ribbons, phonograph records, etc. There are from forty to forty-three million pounds of carbon black manufactured in the United States annually, about three-fourths of which quantity is manufactured in West Virginia for foreign consumption.

F. C. DEVERICKS—WITNESS FOR DEFENDANT.

Pages 1327 and 1328, and 1348 to 1350:

Most of the carbon black factories in West Virginia have been, or are being, dismantled. Gas producers have come to look upon the use of natural gas in the carbon black industry as wasteful, and consider the gas more valuable for use by domestic consumers and have ceased supplying carbon black industries.

R. T. CUNNINGHAM—WITNESS FOR DEFENDANT.

Pages 1226, and 1229 and 1230:

Owing to the success enjoyed by various gas companies in West Virginia in obtaining high rates, the West Virginia industrial consumers will be automatically prevented from going on a "gas spree" or "debauch," even under the operation of the West Virginia statute. The increase in rates already has had this effect in the reduction of the consumption by both domestic and industrial consumers in West Virginia, as have had the various shortages which have occurred,—because of which some industries have gone over to the use of other fuels. In the City of Fairmont and vicinity, it is estimated that the gas which will be used in that district in the future will not exceed the amount of gas used in the year 1916, assuming that the Owens Company would continue to use its producer throughout the year.

F. C. DEVERICKS—WITNESS FOR DEFENDANT.

Pages 1345 and 1346:

The price of industrial gas is 40 cents a thousand feet in Clarksburg at the present time, which is considered almost prohibitive for manufacturing purposes, and the high rate has considerably curtailed its use. In view of this fact and of the further fact that a number of industries have gone over to the use of other fuel, it is estimated that the future consumption of gas by industries in the Clarksburg district will be considerably less than it was in 1914 and 1915 (during and after which years the shortages in gas developed).

IX.

THE EFFECT OF THE OPERATION OF THE WEST VIRGINIA STATUTE WILL BE A DISCRIMINATION IN FAVOR OF THE CITIZENS OF WEST VIRGINIA AND AGAINST THE CITIZENS OF PENNSYLVANIA AND OHIO AND OTHER STATES WHO ARE DEPENDENT UPON THE GAS EXPORTED TO THEM FOR FUEL FOR HEAT AND LIGHT BY THE COMPANIES PRODUCING GAS IN WEST VIRGINIA, AND SUCH RESIDENTS OF PENNSYLVANIA AND OHIO AND OTHER STATES, BOTH DOMESTIC AND INDUSTRIAL CONSUMERS, WILL SUFFER PECUNIARY LOSS AND THE LIVES, HEALTH, SAFETY, COMFORT AND CONVENIENCE OF DOMESTIC CONSUMERS WILL BE AFFECTED.

T. O. SULLIVAN—Page 205:

JOHN B. CORRIN—Pages 349 and 350:

H. A. WALLACE—Page 400:

JOHN B. TONKIN—Page 420:

W. W. FREEMAN—Pages 478 and 479:

JAMES H. REED—Pages 497 to 500:

The testimony of these witnesses may be summarized as follows:

Many communities in Pennsylvania, Ohio and other States are dependent on natural gas for fuel and light, although some are served with electricity. The Hope

and Reserve Companies supply large towns ranging in population from 10,000 up to 60,000, and even cities as large as Pittsburgh, with natural gas. There are a number of such towns and cities upon the lines of the above mentioned companies. In a number of the larger cities, however, such as Pittsburgh, Greensburg and Altoona, there are plenty of houses using electricity (pages 440 and 441). Cincinnati use natural gas for lighting purposes to a considerable extent.

J. E. ANGLE—Pages 534 and 552:

MARTIN B. DALY—Pages 572 and 573; 574, and 577:

T. J. JONES—Pages 635; 636, and 643:

L.B. DENNING—Pages 654; 656; 672 to 674, and 677:

J. W. McMAHON—Pages 718, and 721:

EUGENE P. WHITCOMB—Pages 752 and 753; 766 and 767; 769, and 787:

J. K. ANDERSON—Pages 819 and 820; 821, and 823:

SAMUEL S. WYER—Pages 907; 908; 951 and 952:

SUMMARY OF TESTIMONY OF ABOVE WITNESSES:

The Fayette County Gas Company supplies gas to various towns and cities in Westmoreland and Fay-

ette Counties, Pennsylvania, and the source of this gas at present is the Hope Company operating in West Virginia and the gas supplied by it to the Fayette Company is West Virginia gas.

In various cities of Ohio there are about 475,000 people dependent on the natural gas supplied them by the Pure Oil Company, which secures its supply of gas from West Virginia. This figure of 475,000 includes the entire population of the towns of Columbus, Springfield and the suburbs. The Dayton Gas Company purchases or secures its entire supply of gas from the Logan Natural Gas & Fuel Company, and as the Logan Company secures its gas from West Virginia the Dayton Company is entirely dependent for its supply of gas upon that which is secured from West Virginia. The City of Dayton, Ohio, is dependent for its entire supply of gas upon West Virginia.

The domestic consumers of the Ohio Fuel Supply Company are dependent upon natural gas for cooking, water heating and lighting. The two general sources of supply of gas for the Ohio Fuel Supply Company are Ohio and West Virginia. The Northwestern Natural Gas Company is wholly dependent, and has been for years, upon the supply of gas produced from West Virginia, and if that flow were interfered with or stopped the communities which this Company serves would have no natural gas service.

The Northwestern Ohio Natural Gas Company supplies about 250,000 people in various cities and towns with natural gas.

The Natural Gas Company of West Virginia serves 324 domestic consumers in Pennsylvania.

The Union Natural Gas Corporation and its subsidiary companies supply many consumers in Ohio with natural gas. The City of Lancaster, in Fairfield County, Ohio, is wholly dependent on West Virginia gas. The Union Natural Gas Corporation and its subsidiary companies have contracts with the Dayton Company and the Central Indiana Company providing for the delivery to these companies of West Virginia gas exclusively. The Logan Natural Gas & Fuel Company supplies, both directly and indirectly 364,949 consumers with West Virginia gas.

There are a great number of domestic and industrial consumers in both Pennsylvania and Ohio who are dependent upon West Virginia gas. About 40 per cent. of the total consumption of natural gas by domestic and industrial consumers in Pennsylvania is supplied by gas imported from the State of West Virginia.

There are 650 municipalities in Ohio, Pennsylvania, Kentucky, Indiana and Maryland that depend entirely on West Virginia for their supply of natural gas and have no other gas supply.

MR. WALLACE, of the United Fuel & Gas Company; pages 371 and 372:

MR. TONKIN, of the Peoples Company, pages 417, 421, 422, 423, 428, 431, 433, 434, 438, 439, 441 to 443:

MR. FREEMAN, of the Union Light, Heat & Power Company; pages 475, 479 to 481.

JUDGE REED, of the Philadelphia Company; pages 506 to 508, 522 to 525:

J. E. ANGEL, of the Fayette County Gas Company; page 558:

MARTIN B. DALY, of the East Ohio Gas Company; pages 571 to 574, 597:

T. J. JONES, of the Natural Gas Properties of Pure Oil Co.; pages 639 to 640:

L. B. DENNING, of the Ohio Fuel Supply Company; pages 697 to 698; 702 to 705:

J. W. McMAHON, of the Northwestern Ohio Natural Gas Company; pages 727 to 728:

EUGENE P. WHITCOMB, of the Union Natural Gas Corporation; pages 764, 795 to 796, 800, 805:

J. K. ANDERSON, Consulting Engineer, Clarksburg, W. Va; pages 822, 834 to 835, 854, 855, 856, 858:

The above references to testimony may be summarized as follows:

All the companies above mentioned are experiencing the same difficulty in obtaining a sufficient gas supply. Moreover, the supply is constantly decreasing as the fields decline. The production of the Peoples Company fell off 15% in 1918-1919 despite the expenditure of over a million dollars in drilling additional wells and the company has been put to the use of compressing stations to get gas from the McKeesport field. A regular decline of 15% each year is looked for from now on. Shortages in winter have been severe. The discovery of new gas territory seems to be exceedingly im-

probable. One method used in the attempt by the companies to counteract the shortage of gas has been the preaching of economy to consumers. Whether the West Virginia statute be enforced or not, a condition of the most complete exhaustion of gas or at least the limitation of gas service to cooking stoves, hot water heating appliances and so on, is looked for. There is every prospect that the decline in gas supply will continue until the state of practically complete exhaustion is reached.

All the above refers to conditions in the three States of Ohio, Pennsylvania and West Virginia. The possible solution of the decline in natural gas lies in the restriction of natural gas to domestic consumers, the increase in price for gas supplied to domestic consumers, and contracted area service by natural gas companies.

MR. QUAY, Manufacturers Heat & Light Company; pages 22 to 23, 29:

MR. SULLIVAN, Hope and Reserve Natural Gas Companies; pages 210, 211, 279 to 280, 296:

MR. CORRIN, of the Reserve and other Gas Companies; pages 327, 328, 334 to 335, 336:

MR. WALLACE, United Fuel Gas Company; page 372:

MR. TONKIN, Peoples Natural Gas Company; pages 420, 439:

Mr. FREEMAN, Union Gas and Electric Company;

page 454:

JUDGE REED, Philadelphia Company; pages 522 to 525:

J. E. ANGEL, Fayette County Gas Company; page 558:

MR. DENNING, of the Ohio Fuel Supply Company; pages 671, 673:

MR. WHITCOMB, Union Natural Gas Corporation; page 767:

MR. J. K. ANDERSON, Consulting Engineer, Clarksburg, W. Va.; pages 821, 856, 859:

MR. S. S. WYER, Consulting Engineer, Columbus, Ohio; page 947:

The above references to testimony may be summarized as follows:

With the exception of the unlooked for discovery of the large McKeesport field in Pennsylvania there have been no notable discoveries of new gas territory in either Pennsylvania or Ohio for the last five years, nor is there any prospect that in the future new gas territory will be found in those two States. The companies make constant efforts to find new gas territory but meet with very little encouragement or success. Harrison and Gilmer Counties in West Virginia are practically completely drilled up. There is a possibility of finding additional gas territory in West Virginia but none in Indiana,

Pennsylvania or Ohio. The cities of Columbus and Lancaster, in Ohio, are wholly dependent on West Virginia gas.

Summing up the situation it seems that there are no known fields still unoperated in any section tributary to Pennsylvania and Ohio other than in West Virginia.

HARRY A. QUAY.

Page 29:

"Q. Are there any known gas fields outside of those now occupied and in use, within any reasonable distance from the territory supplied by your company and other companies in this district, that are available, from which to obtain a gas supply?

A. None that I know of.

Q. Are there any fields tributary to the cities and towns now being supplied by the companies which you have named, which are not now being developed and occupied by the various gas producing companies?

A. I know of no such fields. The territory adjacent to practically all of the large centers where natural gas is being supplied has been drilled and tested to a very considerable extent; so that it does not seem to us that any large fields are likely to be discovered in proximity to those centers of population."

JOHN B. CORRIN.

Pages 327 and 328:

"Q. Now, what are the facts as to the knowledge of new fields or not, new gas fields?—Whether or not there are any available for supplying the consumption of natural gas in the present territory supplied with natural gas?

A. Well, I know that not only our own companies, the companies with which I am identified, the Hope and the Reserve, but all other companies, are using extreme efforts to find new fields, and have been for the last five or ten years, especially the last five years—they have used every effort and I don't know of any new field in the last five years that has been discovered that amounts to anything, outside of this McKeesport field,—by any of the companies that amount to anything. * * * "

J. K. ANDERSON.

Page 821:

"Q. Now, do you know of any other fields than West Virginia fields of natural gas which are tributary to Pennsylvania, outside of what is produced in Pennsylvania itself, from which a supply of natural gas for consumers could be obtained?

A. I do not."

MR. QUAY; pages 15, 48, 55, 132, 133:

MR. SULLIVAN; pages 214, 221, 222, 295:

MR. CORRIN; pages 326, 330, 344:

MR. WALLACE; pages 368, 369, 370, 371:

MR. TONKIN; pages 429, 434 to 435, 440:

The testimony of the above witnesses may be summarized as follows:

Under the operation of the West Virginia statute, resulting as it would in cutting off the supply of gas on consumers in Pennsylvania and Ohio, the health and safety of those domestic consumers will be greatly affected. Such consumers would suffer seriously from the deprivation of the fuel which at present affords them heating, cooking and lighting facilities. Injury to their health would follow, especially in the winter months, because homes could not be properly heated to offset the effects of cold weather and because of the lack of facilities for cooking meals. Danger would ensue from the fact that an intermittent gas supply creates the possibility of explosions and fires in that, upon a decrease of gas pressure, fires and lights are extinguished but the valves are left open, and when the gas pressure is increased sufficiently to create a flow of gas to these homes the gas coming through the open valves in full force creates a possibility of asphyxiation or explosion in the houses.

HARRY A. QUAY.

Pages 47, 48:

"Q. If this Bill should go into effect and be enforced in the State of West Virginia, from your knowledge of the conditions in West Virginia, the operation of your lines, and the demands that would be made thereon from time to time by others in accordance with the

provisions of this Statute, what would be its effect, or the effect of such enforcement of the Act upon the operations of your company, with respect to transporting gas from West Virginia into other States?

"A. * * * It would create, from an operating standpoint, a very, very dangerous situation. I know of no condition in the industry which bothers, or is more dangerous to, life and property than a shortage existing in your system. Consumers, when a shortage occurs, naturally desiring to keep warm and to utilize the gas, open, for instance, their valves wide, in order to obtain as much gas as possible; and sometimes they leave the home and go to purchase something, or go to theatres, they leave the house for various reasons, leaving the gas regulated perhaps with the valves wide open; there is a lull or decrease in the demand placed upon the company, and your pressure begins to pick up, the flame in the stove becomes stronger, more full,—in many instances, when the pressure regains normal, the flame is coming out over the consumer's stove, creating a blaze which sets his home afire. At other times people might go to bed, permitting the heating stove to burn in their home; perhaps the pressure declines and the flame becomes extinguished; the pressure naturally increases at night after people have gone to bed, because a great many people have a habit of restricting the amount that is used from the midnight hours; the pressure accumulates, and the gas comes back into the consumer's home, into his room, and asphyxiates him. There is no situation so critical, I consider, as an insufficient supply of gas which is liable to go completely out and then come back on at unknown times."

Page 133:

Natural gas is peculiarly adapted for the purposes of cooking, lighting and hot water heating. Coal or electricity is not so convenient a fuel as a substitute for the reason that gas is cheaper and involves a great deal less labor. The same objections apply to gasoline and oil and to artificial gas. The use of natural gas for heating the homes is not so essential as the use of natural gas for the other purposes above mentioned, and due to the shortage in gas and the decline in the supply, the time may come when the amount of natural gas used for heating purposes will perhaps be restricted.

T. O. SULLIVAN.

Page 214:

"Natural gas service, in order to be at all satisfactory, has to be practically a continuous service. * * * * * if the service is intermittent and unreliable it creates a very dangerous condition. The fact that gas would have to be discontinued on short notice, and then might be turned back into the lines again on short notice, would create a very dangerous and unsatisfactory condition * * * *"

Pages 221, 222:

"Q. * * * I wish you would state a little more fully what you mean by dangers to life and health and so forth of the domestic consumers on your line who are dependent upon gas transported from your lines and delivered to these other companies for the supply of domestic consumers, in the event of your being compelled upon orders of the Public Service Commission or otherwise, to give preference to industrial consumers and others in the State of West virginia? * * *

"A. The danger is caused by the decline in the pressure, which will occur if any large quatities of gas were diverted from places where it was being used. It many times will occur that people are away from home, and they leave certain fires or lights burning in their homes. If the pressure drops to a pressure that some of those fires or lights became extinguished, and then came back on slightly again, there would be an escape of gas into the buildings, which would cause explosions, or might cause loss of life to people who were in the buildings. If this were to occur at night—people frequently retire leaving certain fires and lights burning—and if anything should occur during the night whereby those fires and lights were extinguished and the gas escaped into the rooms, it would be very dangerous and might ignite and cause explosions that would do almost unlimited damage. It would be impossible to estimate what a condition of that kind might bring about."

Page 295 (Cross-examination):

"Q. With reference to the fact of a shortage in the gas supply upon domestic consumers in the States of Pennsylvania and Ohio, have you any reason to think that the inconvenience and suffering occasioned to the consumers in those States would be any different from the inconvenience and suffering caused to consumers in West Virginia by a like shortage?

"A. I have not, if the same conditions existed in West Virginia."

JOHN B. CORRIN.

Page 326:

"Q. What would be the effect upon the practical operation of the lines of the Reserve Natural Gas Company, if it were compelled from time to time, especially on the coldest days or periods of winter, to make connections with and supply other public utilities in the State of West Virginia than those with which it had contracts, and for which it had made provisions?

"A. First, it would be very dangerous. I do not see how it would be possible to operate any gas system of lines if you could not determine the amount of gas that was going to go through those lines and have some person or city, or otherwise, take gas off of the line before it reached your consumers. * * *"

Page 330:

"* * * Another thing,—I think it would be extremely dangerous to have interrupted service. It might be that the gas would go off, practically entirely off, and come on again. It might blow up their houses. * * *"

Page 344 (Cross-examination):

"Q. In your testimony touching the danger to the consumers, where the gas supply is furnished irregularly and interruptedly, you do not mean to confine those dangers to the consumers in Ohio and Pennsylvania, do you?

"A. Oh, no, no.

"Q. There would be equally as much danger to any consumer in West Virginia, who received the same character of service?

"A. Depending on where they were located; but there is more danger in Ohio and Pennsylvania, because there are so many more consumers.

"Q. It is a matter then of percentage?

"A. And location."

H. A. WALLACE.

Pages 368, 369:

"Q. If your company was compelled to supply, under the terms of the proposed legislation, which we are now resisting, an adequate supply to fill the requirements of the domestic, industrial and other consumers of the State of West Virginia, before taking any of the gas outside of the state, what, in your opinion, would be the effect of this upon your ability to transport any gas out of the State?

"A. * * * It would be absolutely dangerous, as I understand the method supposed to take care of this measure; in as far as you would be called upon at most any hour for a large supply of gas, it would necessarily take the gas away from the lines leading into the other States; providing that happened at night or at times the people were away from home, the gas would go out, no doubt, in their homes, if these parties were shut off in the meantime; and before they returned or got up, the pressure would be increased in their lines, and the gas would flow through and come into their

houses, and it would not be lit, and there would be danger of asphyxiating the people, and also of blowing up their houses and killing any number of people. * * *"

Page 371:

"* * * and it would be very dangerous to endeavor to heat or cook with it, especially to heat with it, on account of the supply being possibly taken away from them during the night time when they were asleep, and coming on again and allowing the gas to flow into the residence when there would be no light to ignite it; and under those conditions, of course there is great danger of asphyxiating a large number of people, providing there was some little light in the house that had not gone completely out, the gas would ignite and explode and blow up the building. Or, providing somebody came into the house and lit a match, not being familiar with what might occur in the gas business the same thing would happen—blow up the building and possibly kill numerous people, and it would be a very dangerous and hazardous business."

JOHN B. TONKIN.

Page 429:

"Q. From your practical knowledge and information as to the operation of natural gas lines, and your familiarity with the Hope Company, by reason of your official connection therewith, what do you say as to those demands, such as I have described, being such as to demoralize or interfere with the whole operation of the Hope Company's system?

"A. Well, there is a very great danger when the gas goes out in a house, to the safety of the consumer and

the safety of his property; because if he is asleep or happens to be away, or something of that kind—particularly if there is one light that happened not to go out, the gas would come back on and fill the house with gas, and an explosion would be bound to occur. There is always that danger; that is one danger,—of the gas going out and then coming back on again before the valves are shut off.

"Q. Well, would the cessasion of the supply such as has been described, result in such an intermittent supply of gas as to produce those conditions?

"A. There is no doubt about it in my mind."

Page 435 (Cross-examination):

"The conditions are the same in one State as another, in case of a shortage." (In regard to effect on health and life of domestic consumers).

MR. QUAY; pages 21, 22, 56, 67, 68, 133:

MR. SULLIVAN; pages 205, 206, 220, 295, 296:

MR. CORRIN; pages 330, 331, 334:

MR. WALLACE; pages 372, 373, 400, 402:

MR. TONKIN; pages 422, 434, 435, 440, 441:

MR. JONES; pages 633, 634:

MR. DENNING; pages 677, 678:

MR. McMAHON; pages 723, 724:

MR. ANDERSON; pages 819, 820, 829, 855:

MR. WYER; pages 907, 913, 914, 915, 964:

The testimony of the witnesses above referred to may be summarized as follows:

Most of the homes in Pennsylvania and Ohio housing consumers at present using natural gas as a fuel for heat and light were constructed with a view thereto; that is, the heating, cooking, and sometimes lighting appliances are adapted for the use of natural gas and natural gas only as fuel. Other fuel cannot be used in those appliances and the homes do not contain arrangements for using any other fuel.

If, then, as a result of the operation of the statute, natural gas cannot be obtained by such consumers for use as a fuel for the above purposes, other fuels, which are more expensive to the consumer, will have to be used with the result that it will be necesary to install other appliances. This will further involve the reconstruction of those houses in the installation of cook stoves and heating furnaces and the enlargement of old flues and chimneys or installing new ones. The average cost of such reconstruction or installation to each domestic consumer in Pennsylvania and Ohio will be from $200 to $300, and the aggregate loss thereby occasioned may be determined by the simple process of multiplying such average cost by the number of consumers dependent on West Virginia gas whose houses were so constructed.

HARRY A. QUAY.

Pages 21 to 22:

"Q. Where dwelling houses have been constructed with the burning of natural gas as a fuel in view, and with natural gas appliances installed therein, what are the facts as to whether or not, to introduce other fuel, it is necessary to reconstruct such houses?

"A. I know of many that it would be necessary to reconstruct. I mean by that that some of the houses are built without flues or chimneys. To burn coal or wood it would be necessary that flues be constructed and certain changes made in the homes.

"Q. And in those houses which have been constructed with the intention of using natural gas as fuel, where there are flues and chimneys, what are the facts as to the sizes of those flues and chimneys for other fuel?

"A. I know of quite a few that the flue inside the chimney is restricted to such small size that coal cannot be burned successfully,—that is, the smoke comes out into the rooms. It would be necessary for them either to tear those down or reconstruct in some manner, and make a larger flue or drafts for the burning of coal or other fuel.

"Q. From your experence and knowledge of the business and observation in those towns or cities, in which natural gas was used as a fuel, and in which there have been large construction of houses during the last few years, especially five or ten years ago, were those houses built solely with reference to the burning of gas? Or were they planned and built with reference to the use of other fuel as well—What was the custom?

"A. A great many of them were built for the sole purpose of burning gas. Now, that situation perhaps has changed in the last two or three years. Previous to that time the supply of gas was very good, but for the last three or four years, our company, as well as other companies in this vicinity, has been unable at all times to supply the full requirements of their consumers, and shortages have occasionally occurred. This has brought attention to the fact that natural gas is not going to exist forever and that they might be called upon at some time to substitute other fuel in the immediate future.

"Q. And that is what has brought about then the change in the methods of construction to which you have referred?

"A. Yes, sir."

(Cross Examination).

In the event of gas shortage or deprivation of gas supply in West Virginia, there would be as much and similar necessity for reconstructing houses at present adapted to the use of natural gas as there would be under similar circumstances in Ohio and Pennsylvania.

JOHN B. CORRIN.

Page 330:

"And in addition, I do know there are thousands of houses in this vicinity and other vicinities, that would have to be, as far as the flues are concerned, reconstructed before they could put other fuel in."

H. A. WALLACE.

Page 372:

"Q. Take the consumers upon your lines in West Virginia and Ohio and Kentucky; what are the facts as to special appliances being necessary to be installed for the purpose of burning natural gas instead of other fuel?

"A. They have to have, all domestic consumers, special appliances for using natural gas."

Page 402: (Cross Examination):

The necessity for reconstruction of houses in West Virginia under conditions of gas shortage in that State would be similar to that in Pennsylvania and Ohio under the same conditions.

J. K. ANDERSON.

Pages 819, 820:

"Q. When natural gas is used as a fuel in dwelling houses, and also industrial plants, is it necessary to construct the houses and plants specially adapted to the use of gas as compared with other fuel?

"A. To burn gas economically, it is necessary to have your house equipped with proper service and house piping between the floors and walls of dwellings, and to use efficient appliances, also to construct suitable flues to carry off the products of combustion.

"The natural gas appliances cannot be used for burning any other fuel. Many houses are equipped with

flues which are sufficient to carry off the burned gases, but are insufficient to carry off the increased volume of smoke and burned gases from coal.

"It would be necessary to largely reconstruct a great number of those houses at heavy expense, to equip them to use other fuel. Often it would be necessary to increase the size of flues with which the house was originally equipped, and frequently to build a large flue of sufficient capacity to take care of the products of combustion from large coal-heating furnaces, which are extensively used in heating residences."

T. J. JONES.

Pages 644, 645: (Cross Examination):

Many of the houses which at the present time are equipped for the use of natural gas were built prior to the furnishing of natural gas as fuel and were built for the purpose of using coal, and many of the houses that have been since built have put in furnaces for the use of coal and some of which have been used or equipped for the purpose of using gas as a fuel by putting gas burners on them and many of them were using coal and have been using coal from the beginning.

L. B. DENNING.

Page 677 to 678:

" * * * The effect of that (to have any considerable quantity of West Virginia gas diverted) upon the consumer direct is that he must turn to some other form of fuel, either gaseous or solid, to supply that need. If he turns to a gaseous fuel the only remedy he has, and the only thing he can have is a manufactured gas.

He will not get the service from the manufactured gas that he gets from natural gas for the reason that the B. T. U. content of the artificial gas is rarely more than one-half of the B. T. U. content of natural gas. If he turns to solid fuel he then has the complete elimination of his present fixtures and appliances, the readjustment of household conditions, and with the further added inconvenience of the dirt and annoyance and the necessity of cleaning out ashes * * *.

If he turns to the manufactured gas he can, to a limited extent, use the fixtures and appliances for cooking that he has now with some modification and adjustment at some expense."

S. S. WYER.

Page 964: (Cross Examination):

As to the necessity for reconstruction or conversion of homes at present constructed for the use of natural gas as fuel, in the event that it becomes necessary to use other fuel the same conditions would obtain in West Virginia as in Ohio and Pennsylvania.

HARRY A. QUAY.

Page 56:

"I would say that I consider it would cost those consumers on an average of at least $200 per consumer, to substitute other fuel for the purpose of cooking, heating and lighting their homes. In making that estimate, I took into consideration the fact that last fall I put in substitute heating appliances, in my home, which cost me two hundred and approximately seventy-

five dollars for my heater and the accessories; wiring my home for electric lights, the total expense was approximately $250. I secured prices on coal cook stoves; one cannot purchase at these times a very elaborate cook stove—coal cook stove—short of $40 or $50. * * * Realizing that perhaps the expense incurred by me in our place was much higher than it would be in the average, I threw off a couple or three hundred dollars and figured that $200 would perhaps be much lower than it would cost the average customer."

T. O. SULLIVAN.

Page 222:

"Q. What would you say would be a fair estimate of the average cost to the present domestic consumers in the States of Pennsylvania and Ohio, now using natural gas, to change their appliances to other fuel, where those appliances could be changed without reconstruction of the houses? What would be a fair average, or have you made any figures upon that subject?

"A. I have atempted to make figures upon it, but it is rather a difficult thing to do, to arrive at an average, of course. It is a very easy matter to estimate what the cost would be of changing any particular house, * * * but as far as I have been able to figure it out, an average price would probably—would be between two and three hundred dollars per house. That might be more or might be a little less. I don't think it would be any less; my judgment would be that it would be more, if anything."

Pages 295, 296: (Cross Examination):

The cost of reconstruction of houses in West Virginia for the purpose of changing them so that fuel other than natural gas could be used would be about the same per house as the cost per house in Pennsylvania.

JOHN B. CORRIN.

Pages 330 to 331, 334:

The cost of reconstruction of houses in order to make possible the use of fuel other than natural gas where such houses were originally constructed with a view towards using natural gas would, basing the estimate upon the cost of reconstructing witness' own home of ten rooms, be from $400 to $500, and (p. 344. Cross Examination) the cost would be about the same for a West Virginia house.

L. B. DENNING.

Page 678:

" * * * He cannot, however, except in a very limited way, use the heating appliances that he has, so he must necessarily not only sustain what I may call a loss in the way of better conditions in the household but also a substantial financial loss in the way of being compelled to junk and abandon appliances and fixtures which are already in the house and already in use and which have been in use for a good many years. The actual money outlay or loss sustained by the individual consumer would be purely a matter of conjecture, depending upon the individual conditions. I would estimate, due to the change in fixtures, a loss of from $50 to $75 per consumer as a minimum; due to

the change in house conditions I fancy would be much more than that, although I am not prepared to give any figure as to that."

S. S. WYER.

Page 907:

"The enforcement of the Act in controversy would mean a loss of at least $100 on the average to each consumer affected, and this would mean an aggregate loss of at least $112,000,000."

Page 914:

"It would be a very great inconvenience. It would represent a very distinct financial loss. Of course, it would be very difficult to fix that by any definite arithmetical amount, because natural gas at any prices that it has been sold for in the past is cheaper by far than any other service or competing commodity that could be purchased for performing any similar function in the house. One dollar natural gas would be only 40 per cent. as expensive in actual cost to the consumer as manufactured gas at current prices, and for the larger communities it would be necessary to go to manufactured gas. For the smaller communities—and they of course are in the majority as far as numbers are concerned—it would not be feasible to operate artificial gas plants, and they would have to go without any gas service at all, and for any other commodity they could purchase at present market prices, the cost would be very much greater and would represent a distinct and great financial loss, in addition to the very important one of the great inconvenience of natural gas for domestic purposes."

MR. QUAY: pages 15, 21, 58, 59, 56:

Mr. DALY: page 586:

MR. DENNING: page 677:

MR. McMAHON: page 724:

MR. ANDERSON: pages 820, 830, 853:

MR. WYER: page 964:

Summary of above testimony:

Industrial plants in Pennsylvania and Ohio, as in the case of the homes of domestic consumers in those States, were constructed with a view toward fitting them to the use of natural gas as a fuel. These gas appliances are unfit for the use of other fuel, and in the event of the necessity of the use thereof, the appliances will have to be reconstructed. The industrial consumers in Pennsylvania and Ohio can use no other fuel so effectively as natural gas, and the deprivation of the supply of natural gas under the operation of the West Virginia statute will result in a serious financial loss to such customers.

HARRY A. QUAY.

Page 15:

" * * * It (natural gas) is used by industrial consumers for various uses,—we have steel plants, glass factories, potteries, machine shops, founderies—various industries who receive gas from our lines."

Page 21:

"A. When the price of natural gas was very cheap, it was used in a great many crude appliances, but as the price advanced, the industrial user has been forced to adopt appliances especially constructed for the use of natural gas, so that he might burn it economically."

(Cross Examination..:

Pages 58 to 59:

Natural gas is used in industrial plants in West Virginia in about the same way and for the same purposes as in Pennsylania.

Page 820:

"A. In case of industrial plants, where it is desired to change from natural gas to the use of coal, oil, or other substitute fuel, it is generally necessary to reconstruct some of the subjects, in order to make the change in fuel, or else to build and construct artificial gas plants with which to supply artificial gas in the same appliances and burners. This is perhaps a heavier expense than to make a change to some of the other classes of fuel."

Page 56:

A great many of the industrial consumers of the Manufacturers Light and Heat Company will have to reconstruct their plants in order to use fuel other than natural gas, their appliances at present having been constructed especially for the use of natural gas. For

use by industrial companies, this gas has many advantages over other commodities as a fuel as to its heating value and to the manner in which this heat can be applied and in which the gas can be used.

L. B. DENNING.

Page 677:

"A. Natural gas is the best and most economic and most convenient fuel for all general purposes that has ever been discovered. Its B. T. U. content of heat efficincy is generally from 100 to 150 per cent more than that of any manufactured gas or any solid fuel."

HARRY A. QUAY.

Pages 20 and 21, 28 and 29:

The gas companies producing gas in West Virginia supply large communities in Pennsylvania with gas. Since up to the last few years gas has been plentiful, every effort has been made to extend the business, the number of consumers and the amount of gas sold. Taking as a basis for computation the number of natural gas meters in use in Pennsylvania, it would appear that some 2,000,000 people in that State use gas for fuel and light. Although industrial consumers on the lines of the Manufacturers Company are no longer entirely dependent upon natural gas, for the reason that they have equipped themselves with substitute fuel, domestic consumers, to the extent of thousands, have no other way of heating their homes or cooking than by natural gas.

Among the number of entire communities supplied with natural gas there are various large communities. The East Ohio Gas Company, supplying gas in Ohio, the Peoples Natural Gas Company, of Pennsylvania, the Fayette Natural Gas Company and The Manufacturers Light & Heat Company, receive practically all their gas for domestic purposes from outside the State, substantially wholly from the State of West Virginia. The same is true of the Carnegie Natural Gas Company and the Philadelphia Company.

Page 28:

The East Ohio Gas Company, supplying gas in Ohio; the Peoples Natural Gas Company, the Fayette Natural Gas Company and The Manufacturers Light & Heat Company, supplying gas to domestic consumers in Pennsylvania, receive practically their entire supply of gas so furnished from West Virginia. The Carnegie Natural Gas Company and the Philadelphia Company, supplying gas to both Ohio and Pennsylvania, receive it from the same source.

Pages 8 and 9:

Gas supplied by The Manufacturers Light & Heat Company, 1919:

Number of Consumers:

In West Virginia	In Pennsylvania	In Ohio	Miscellaneous
11,000	75,000	26,000	4,500

Total, 116,500.

Gas sold in West Virginia in cubic feet, 5,400,000,000; Pennsylvania, 15,800,000,000; Ohio, 6,300,000,000.

(NOTE: Includes domestic, industrial and miscellaneous sales.)

Gas supplied to domestic consumers: West Virginia, 1,084,000,000 cubic feet; Pennsylvania, 7,966,000,000 cubic feet; Ohio 2,600,000,000 cubic feet.

Gas supplied by the Manufacturers Company for industrial purposes: West Virginia, 3,300,000,000 cubic feet; Pennsylvania, 5,700,000,000 cubic feet; Ohio, 3,700,000,000 cubic feet.

Miscellaneous: West Virginia, 1,000,000,000 cubic feet; Pennsylvania, 1,600,000,000 cubic feet; Ohio, 100,000,000 cubic feet.

Pages 141 to 143:

Figures showing the number of domestic consumers, the number of industrial consumers and the number of miscellaneous consumers supplied by The Manufacturers Light & Heat Company with natural gas for the years 1910 to 1919, inclusive, in the three States of Pennsylvania, Ohio and West Virginia.

Pages 29, 52 131, 133, 134, 149, 150, 151, 162, 167:

Not only are the present fields of gas inadequate to supply the large companies operating in West Virginia with gas sufficient to satisfy the requirements of all their consumers, but those gas fields are also on the decline; that is, the supply of gas obtainable from them is steadily decreasing. The Manufacturers Light and Heat Company has not sufficient gas to fill the demands of its customers. In cold weather when the industrial consumers are shut off there is still not sufficient gas

for the domestic consumers of the Manufacturers Company in the States of Pennsylvania and Ohio. Further, all the known gas fields tributary to the gas territory held under lease by the Manufacturers Company are occupied and in use—that is, fully drilled up and fully operated. Due to this condition the Manufacturers Company cancelled all contracts for the sale of industrial gas, with the exception of United States government contracts, as of March 5, 1920. One reason for the purchase of gas in such large quantities from the State of West Virginia by Pennsylvania and Ohio consumers is the decline in the Pennsylvania and Ohio gas fields. As a matter of fact the production of gas from the fields in all three states—Pennsylvania, Ohio and West Virginia—is fast declining, steady and constant demands being made upon the gas underneath the fields, the amount of which is definite and limited and not inexhaustible. The decline in the production of gas in West Virginia fields has been less than that in Pennsylvania and Ohio, but is perfectly discernible. The time is approaching when there will be insufficient gas to meet the requirements of even domestic consumers in the three States mentioned. Little or no new territory is available. The companies producing gas in West Virginia have in prospect the necessity of abandoning those plants when the supply of gas becomes altogether exhausted though it will be attempted to postpone that period by curtailing the consumption of gas and by the adoption by consumers of other fuel when the gas supply becomes so low as to be unsatisfactory. The alternative to discarding the large gas plants is the production of manufactured gas, which is merely a possibility.

T. O. SULLIVAN.

Pages 211, 279, 280, 283, 296, 297:

At the present time the companies have not sufficient natural gas or means of obtaining natural gas to satisfy the demands therefor made upon them by the consumers. The Winter months witness great shortages of natural gas invariably. The prospect is that these shortages will increase since, at least in the witness' knowledge, there is no way in which the gas companies can obtain sufficient gas to adequately supply consumers in Winter. Discovery of new gas territory is hardly to be hoped for, and further, the present gas fields are becoming depleted and are being steadily exhausted. The rate of decline depends upon two factors:

(a) the rate at which the gas is taken out, and

(b) the size of the hole from which the gas is extracted.

JOHN B. CORRIN.

Pages 329 and 344:

In the witness's estimate, ¾ of the gas used by domestic consumers in Pennsylvania and Ohio comes from West Virginia. The proportion of gas used in Pennsylvania and Ohio for industrial purposes which comes from West Virginia is somewhat less, however, than 75 per cent. These conditions have existed for about four years and exist at the present time; if anything the percentage of gas obtained by consumers in Ohio and Pennsylvania from West Virginia is increasing.

Pages 327, 328, 346, 348, 349:

Prior to the war the Reserve Gas Company and the Hope Natural Gas Company suffered no shortages, but since then the supply has been insufficient to meet the demand. All gas fields and all sands of all gas companies are declining, the present fields being capable of producing but an insufficient supply to satisfy the demands of consumers. In spite of the efforts of the companies to get more gas, not only on the surface but by deeper drilling, no success having been met, the probability for the coming year would be 30% increase in the shortages. Some companies are at present using suction on their wells to increase the production of gas and eventually all the other companies will have to adopt the same methods.

Page 349:

"* * * There is just a limited amount of gas left and we have to all realize that. We can use it up in two or three years, or we can extend it over a period of ten or fifteen years, and it is just up to the people what they are going to do with it."

H. A. WALLACE.

Page 400:

The Union Gas & Electric Company, of Cincinnati, supplying domestic consumers in Cincinnati with gas, receives its supply from the Columbia Gas & Electric Company, which, in turn, obtains its gas from West Virginia and Ohio.

JAMES H. REED.

Pages 497 to 500:

"Q. Have you the list of the cities and towns supplied by your company in the State of Pennsylvania, in Allegheny County, Armstrong County, Greene County, Washington County and Westmoreland County; also the cities and towns in the State of West Virginia, supplied; and also the gas supplied from trunk lines to customers whose post office addresses are given?

A. I have.

Q. Will you read that into the record, please?

A. (Reading):

Cities and Towns in the State of Pennsylvania Supplied

ALLEGHENY COUNTY

Aiken Station
Barking Station
Boquet
Brackenridge
Bruceton
Cheswick
Crafton
Creighton
East Bellevue
Edgewood
Emsworth
Ewingville
Glendale
Greentree
Allison Park
Bellevue
Bower Hill
Braddock
Carnegie
Clinton Terrace
Crafton Heights
Dormont
East McKeesport
Ellisdale
Etna
Fite Station
Glassmere
Harmarville
Aspinwall
Birdville
Boyce Station
Bridgeville
Carrick
Coal Valley
Crafton Terrace
Duquesne
East Pittsburgh
Elrama
Ewing Station
Floreffe
Glenfield
Hawkins
Hays Borough
Hoboken
Homeville
Knoxville
Lincoln Place
Milltown
Mt. Lebanon
McKees Rocks
New Texas
Option
Pittsburgh
Rankin
Rosslyn
Sandy Creek
Swissvale
Turtle Creek
Wall
West Homestead
Westwood
Williamsburg
Woodville
Fairhaven
Rodfield
Spring Garden Boro
Heidelberg
Homestead
Hulton
Large
Lockton Station
Millvale
Mt. Oliver
Munhall
North Braddock
Perrysville
Port Perry
Redman's Mills
Ross Station
Sharpsburg
Tarentum
Verona
Walton Station
West View
Whitaker
Willock
Broughton
Gill Hall
Snowden
Hite
Homestead Park
Ingram
Leesdale
Logans Ferry
Montrose
McKeesport
New England
Oakmont
Pitcairn
Port Vue
Rosevale
St. Clair Borough
Springdale
Thornburg
Versailles
West Elizabeth
West Red Raven
Wilkinsburg
Wilmerding
Epton
Miller's Road
Surgeon's Hall

ARMSTRONG COUNTY

Atwood
Blanket Hill
Clinton
Cockran's Mills
Elderton
Ford City
Freeport
Kelly Station
Mossgrove
Neale
Rockville
Sagamore
Shay
Stonehouse
Whitesburg

GREENE COUNTY

Ashtree
Woodruff
Brocks
Clarksville
Brave
Delphine
Dunn Station
Deep Valley
Garrison
Gump
Fordyce
Hero
Holbrook
Harveys
Jefferson
Jollytown
Hoover's Run
Ned
Nettle Hill
Kirby
Oak Forest
Pine Bank
New Freeport
Sand Rock
Spraggs
Rogersville
Waynesburg
Sycamore

WASHINGTON COUNTY

Amity
Beallsville
Bentleyville
Canonsburg
Cecil
Claysville
Coal Centre
Donora
Eldora
Elrama
Ellsworth
Gastonville
Greenlee Station
Khedive
Monongahela
Pleasant View
Scenery Hill
Speers
Baidland
Centerville
Coal Bluff
Courtney
Charleroi
Deemston
Dunkirk
East Bethlehem
Eighty-four
Finleyville
Frederickstown
Ginger Hill
Hackett
Ivanhoe
Kammeron
Mingo
Vanceville
Venetia

WESTMORELAND COUNTY

Meadow Brook
Murrysville
Trafford
Vandergrift
Parnassus

CITIES AND TOWNS IN THE STATE OF WEST VIRGINIA SUPPLIED:

Blueville
Boothsville
Burton
Colfax
Daybrook
Enterprise
Fetterman
Flemington
Grafton
Gypsy
Haywood
Hutchison
Lumberport
Pruntytown
Rosebud
Rosemont
Shinnston
Thornton
Worthington

Gas is also supplied from trunk lines to customers, whose post office addresses are as follows:

Addison
Anthem
Artisan
Bridgeport
Bristol
Broomfield
Brown
Camden
Clarksburg
Dola
Everson
Fairmont
Fairview
Farmington
Freemansburg
Glover Gap
Hundred
Jane Lew
Kodal
Littleton
Logansport
Lost Creek
Mannington
Metz
Middleton
Moorsville
Monongah
Pleasant Valley
Prospect
Roanoke
Ross
Salem
Sedalia
Simpson
Smithfield
Tevebaugh
Uniontown
Viropa
Wales
Watson
Weston
West Union

Q. Those trunk line consumers, to whom you refer, are in West Virginia, are they not?

A. Yes, sir."

J. E. ANGLE.

Pages 538 and 539:

This is a table showing the number of domestic consumers and number of industrial consumers served in the towns of Uniontown, Scottdale, Connellsville and Mt. Pleasant, Pennsylvania, by the Fayette County Gas Company; the cubic feet of gas supplied to municipalities and public buildings by the Company, and the number of people in the above named towns dependent upon that gas, estimating 4½ persons per consumer, for the years 1910 to 1919, inclusive. The table shows the domestic consumers in the four towns named to average about 10,500 each year; other consumers, about 95; municipalities and public buildings, about 75,000, and the number of people dependent, 45,000 to 55,000.

MARTIN B. DALY.

Pages 572 and 573:

"Q. Can you give us a list of at least the principal municipalities and cities that you supply gas to?

"A. Yes, sir; I think I have that here:

Towns served as of December 31, 1919.	No. of consumers.
Clevland	208,294
Akron	32,655
Kenmore	1,866
Cuyahoga Falls	1,890
Canton	18,685
North Canton	370
Massillon	4,915

Dover	1,971
New Philadelphia	2,704
Uhrichsville and Dennison	2,861
Kent	1,623
Ravenno	1,872
Youngstown	25,687
Warren	5,925
Niles	2,381
Girard	1,268
Hubbard	596
Struthers	1,302
Lowellville	297
East Palestine	1,363
Poland	171
New Middletown	65
Petersburg	94
Wooster	2,540
Orrville	1,114
Shreve	373
Loudonville	3,643
Barberton	3,272
Wadsworth	1,101
Dovlestown	270
Millersburg	351
Danville	194
Buckeye City	116
Gann (Brinkhaven)	125

Q. Now those towns are scattered over your system from Southeastern Ohio in Monroe County to Cleveland on Lake Erie, and from Danville in Knox County to Millersville in Monroe County, are they, Mr. Daly?

A. Yes, and extend further down through the Southeastern corner of Monroe County to East Palestine

and North in Trumbull County to the City of Warren; East to the City of Urbana in Portage County also. The beginning, however, of the distribution does not take place until after the lines enter Tuscarora County, Uhrichsville and Dennison being the furthest South.

Q. In that list do you have the cities of Cleveland, Canton, Akron, indirectly Alliance, Youngstown and Warren?

A. Yes, all of those."

Page 588:

Because of the inability of the Hope Natural Gas Company to fulfill its contracts with the East Ohio Gas Company during the winter time there have been serious shortages of gas in the vicinity supplied by this company, so serious that for a number of days extending over a period of nearly three weeks there were many people who could not obtain sufficient gas to cook their meals.

Page 612:

"Q. When the supply of gas which the company may have for distribution gets below a certain point what is your opinion as to whether or not there is very great danger involved in its consumption?

A. There is no doubt but that the condition you describe would bring about a hazard in the use of gas which might result in loss of life and property by reason of explosions and asphyxiation. Fires could not be left burning over night with any degree of certainty or safety and it would render the service not only unsatisfactory but dangerous."

T. J. JONES.

Pages 631 and 632, summarized:

The witness is manager of the Natural Gas Properties of the Pure Oil Company, under which exist a number of subsidiary companies. The subsidiary companies are the Columbus Gas & Fuel Company, Federal Gas & Fuel Company, Springfield Gas Company and the Dayton Gas Company. From 1916 to 1920, inclusive, the Federal Gas & Fuel Company had from 13,000 to 16,000 consumers annually; the Dayton Gas Company from 28,000 to 36,000 consumers annually; the Springfield Gas Company from 11,000 to 14,000 consumers annually, and the Columbus Gas & Fuel Company from 44,000 to 46,000 consumers annually.

Page 740:

Figures furnished by T. J. Jones.

Consumption for the year ending March 31, 1920, of gas furnished by the Columbus Gas & Fuel Company, the Federal Gas & Fuel Company, the Dayton Gas Company and the Springfield Gas Company:

Domestic, 13,310,970,000 cubic feet; industrial, 1,790,396,000 cubic feet; total, 15,101,366,000 cubic feet.

The number of domestic consumers of the combined companies was 111,695; of industrials, 941; total, 112,633.

The proportion used by the industrial consumers was, therefore, 11.85 per cent.

Pages 636 and 637:

"Q. And if your supply of gas from West Virginia was curtailed by reason of the putting into force of the act in question here what would be the result of that on your company as a company and your consumers and those dependent upon your company?

A. The service as I have stated would be very unsatisfactory and very hazardous. The consumers would be limited to gas for cooking and lighting and heating hot water. It would be necessary for them to provide other means for taking care of their comforts in the way of heating. * * *"

L. B. DENNING.

Pages 667 and 668:

"A. That list is a tabulated statement of the towns which we supply direct by the Ohio Fuel Supply Company and the Northwestern Ohio Natural Gas Company, but does not include the names of the municipalities which are not supplied direct by us.

By The Ohio Fuel Supply Company:

St. Clairsville
E. Richland
New Lexington
Junction City
Belmont
Bethesda
Morristown
Barnesville
Somerton
Miltonsburg
Quaker City
Spencer
Cambridge
Byesville
Pleasant City
Derwent
Buffalo
Senecaville
Coldwell
Sarahsville
Claysville
Rix Mills
Belle Valley
Coal Ridge
Mt. Vernon
Fredericktown
Academia
Gambier
Howard
Millwood
Bangs
Brandon
Martinsburg
Croton
Appleton
Johnstown
Alexandria
Lock
Perrysville
Hayesville
Mifflin
Zanesville
South Zanesville
Hanover
East Fultonham
Dresden
Hooker
London
Xenia
Wilberforce
Miamisburg
Germantown
Monroe
Sharonville
South Charleston
Rockbridge (Field)
Tremont City
Lawrenceville
Buckeye Lake
Colfax
Pleasantville
South Pleasantville
Pickerington
Lancaster
White Cottage
Old Washington
Crafton
Sedalia
Rushville
W. Rushville
Bremen
Shawnee
New Straitsville
Corning
Hemlock
Ludington
Drakes
Bukingham
Millerstown
Rendville
Glouster
Trimble
Jacksonville
Logan
Haydenville
Enterprise
Nelson Valley
Carbon Hill
Midway
McArthur
Hamden
Wellston
Coalton
Glenroy
Jackson
Allensville
Gallipolis
Middleport
Pomeroy
Chester
Gahanna
New Albany
Canal Winchester
Waterloo
Crooksville
Roseville
Beem City
Fultonham
Frazeusburg
Carroll
Sugar Grove
West Jefferson
Cedarville
Somerset
Franklin
West Carrollton
Bethany
Urbana
Mt. Sterling
Murray City
North Hampton
Groveport
Camp Grounds
Horns Mills
Baltimore
Thurston
Basil
Nashport
Trinway
Lore City
New Carlisle
Beattytown
Piqua
Sidney
Troy
Tippacanoe City
Covington

By The Northwestern Ohio Natural Gas Company:

Toledo North Baltimore Bowling Green
Maumee Perrysburg

By Point Pleasant Natural Gas Company:

Point Pleasant, West Virginia."

Page 661 to 664:

Tabulation of figures showing gas sales by the Ohio Fuel Supply Company for the years 1910 to 1920, inclusive, and showing the number of domestic consumers, the number of public buildings supplied and the amount supplied to each company every year; the amount of gas sold by the Northwestern Ohio Natural Gas Company to domestic consumers and the number of domestic consumers; the amount of gas sold by the Ohio Fuel Supply Company to industrial consumers and to other consumers and the number of such consumers, respectively. Likewise for the Northwestern Ohio Natural Gas Company. The amount of gas sold to all consumers and the number of such consumers by the Ohio Fuel Supply Company; also the amount of gas sold at wholesale to municipalities and utilities. The amount of gas sold to all consumers by the Northwestern Ohio Natural Gas Company, and the number of such consumers. All these figures are given for the respective years 1910 to 1920, inclusive.

The number of domestic consumers of the Ohio Fuel Supply Company increased from 53,908 in 1910 to 63,060 in 1920, and the amount of gas sold fluctuated from almost 6,000,000,000 cubic feet in 1910 to less than 4,000,000,000 cubic feet in 1920. In 1910 there were 259 public buildings which were on the lines of

the company's consumers; these increased to 415 in 1920, and the amount of gas furnished such consumers decreased from 582,165,000 cubic feet in 1910 to 180,356,000 cubic feet in 1920.

The Northwestern Ohio Natural Gas Company enjoyed an increase in the number of consumers from 34,579 in 1910 to 54,119 in 1920, and the gas sold increased from about 3,000,000,000 cubic feet in 1910 to 5,620,150,000 cubic feet in 1919. Similar fluctuations are shown in the other figures referred to. For actual figures see tables on pages referred to.

G. F. BATCHELOR.

Page 745:

This table shows sales of gas by the Natural Gas Company of West Virginia to domestic consumers in varying amounts close to the 2,000,000,000 cubic feet mark for the years 1910 to 1919, inclusive, and to industrial consumers in amounts increasing from 708,987,000 in 1910 to about 2,000,000,000 in 1919. Total of gas furnished domestic and industrial consumers for the same years increased from 2,700,000,000 in 1910 to over 3,000,000,000 in the years 1917 and 1918 and 2,923,345,000 in 1918.

EUGENE P. WHITCOMB.

Page 794:

Tabulation showing number of domestic consumers of the Logan Natural Gas & Fuel Company and the amount of gas furnished such consumers for the years 1910 to 1919, inclusive, and the ratio which the amount of gas thus furnished bears to the total amount of gas

sold by the Company. Similar figures are shown relative to the gas for other consumption, including commercial and industrial.

Pages 758 to 761:

The Logan Natural Gas & Fuel Company supplies domestic, industrial and other consumers in various towns in Indiana and Ohio with natural gas. The figures for the year ending December 31st, 1919, are as follows:

Population in towns serve[illegible] 339,340; domestic consumers, 85,832; commercial, in[illegible]strial and miscellaneous, 1,628; total consumers, 87,460.

Cities and towns served through other companies in Ohio:

Population, 246,817; total number consumers served, 52,020.

Cities and towns served through other companies in Indiana:

Population, 89,589; total number of consumers served 16,232.

Grand total population served by the Logan and other companies in Indiana and Ohio, 675,946; total consumers served, 155,712.

Only the totals of all figures have been given here.

The tables in the record show the population of, and domestic and industrial consumers served in, each town.

J. K. ANDERSON.

Page 821:

"About forty per cent. of the total consumption of natural gas by the domestic and industrial consumers in Pennsylvania is supplied by gas imported from the State of West Virginia, and therefore at least forty per cent. of such consumers are wholly or partly dependent upon West Virginia for their fuel supply."

Page 823:

"Q. Now give us the average annual consumption per domestic consumer for the year 1918, for the different states?

A. The average annual consumption per domestic consumer for the year 1918, for the different states, is as follows:

West Virginia	164.89	thousand	cubic	feet.
Pennsylvania	124.34	"	"	"
Ohio	110.65	"	"	"
Kentucky	87.21	"	"	"
Indiana	78.25	"	"	"
22 other states	91.80	"	"	"

Pennsylvania Exhibit No. 32, offered at page 823 of the record, appears on page 1569 of the record.

In addition this exhibit embraces a compilation taken from the reports to the Board of Public Works and to the Public Service Commission, of West Virginia, for the years 1909 to 1919, inclusive, showing the average yearly consumption per domestic consumer in West Virginia in thousand cubic feet, and also showing

the number of domestic consumers, the volume in M cubic feet and the average per domestic consumer of 13 companies and 54 other utilities doing business in West Virginia, and the average price per domestic M feet of gas for the year 1918 of said companies and utilities.

Page 819:

"Q. Mr. Anderson, give us the number of industrial and domestic consumers, and the amount of natural gas consumed by them, in the State of Pennsylvania, as shown by this exhibit, Pennsylvania Exhibit No. 30, which has been already introduced, for the year 1918.

A. The report of the United States Geological Survey for the year 1918 shows 481,275 consumers; or on a basis of five people to each consumer, 2,406,375 people using 59,839,731,000 cubic feet of gas. It shows 4,486 industrial consumers, using 117,300,074,000 cubic feet of gas. The total consumption in said State for both classes is given as 177,139,804,000 cubic feet.

Q. Now, have you the same information as to the number of domestic and industrial consumers and the amount of gas consumed by them, in the State of Ohio?

A. I have; it is shown on the reverse side of that sheet—on Pennsylvania Exhibit No. 30.

Q. Give it to us.

A. A report of the United States Geological Survery for the year 1918 shows 885,876 domestic consumers, or, on a basis of five people to each consumer, 4,429,380

people using 98,023,666,000 cubic feet of gas. It shows 4,010 industrial consumers, using 45,561,594,000 cubic feet of gas."

Page 827, 828:

The direct result of the enforcement of the West Virginia statute would be a deficiency in the supply of gas available for transportation to other States. This would come at the time of greatest demand and this deficiency in supply to consumers during the extremely cold weather would cause great distress and suffering and be attended with dangers of possible death from asphyxiation."

Page 829:

"Q. What effect would the enforcement of the provisions of the Act in controversy here have upon the consumers in Pennsylvania who obtain through their respective companies their supplies of natural gas from West Virginia?

A. It would certainly endanger the comfort for a considerable time during the Winter season of over two million people in the State of Pennsylvania by reason of shortages of gas which would take place. Their peak load coming at the same time as the peak load demand of domestic consumers of the various natural gas utilities in West Virginia making a natural shortage at the extremities of the distribution system much greater than it would be in the State of West Virginia itself. This might possibly endanger their lives by reason of the low pressure which would prevail in so many homes and attendant danger of possible fire and explosion."

Page 841: (Cross Examination):

The effect of a gas shortage on either domestic or industrial consumers in either Pennsylvania or Ohio would not be any different or greater than the shortage of domestic or industrial gas on consumers in West Virginia; that is, that West Virginia consumers, if they did not have enough gas in the winter time, would be subjected to the discomforts of coal and would be compelled to substitute other appliances or alterations in their dewelling houses or industrial plants in order to use other fuel, and their inconvenience and expenses would be the same as in Ohio and Pennsylvania.

SAMUEL S. WYER.

Pages 907 and 908:

"Q. Can you give us, from investigations which you have made, the percentage of all the gas used in Maryland, Pennsylvania, Ohio, Indiana and Kentucky, that is furnished from West Virginia, or supplied from West Virginia?

A. Maryland, 100 per cent; Pennsylvania, 35 per cent; Ohio, 50 per cent; Indiana, 80 per cent; Kentucky, 90 per cent.

Q. How many municipalities in Ohio, Pennsylvania, Kentucky, Indiana and Maryland, respectively, depend entirely on West Virginia for their natural gas service, having no other gas supply?

A. About 650 towns in the five states.

Q. How many in each?

A. Ohio, 300; Pennsylvania, 300; Kentucky, 25; Indiana, 15; Maryland, 14.

Page 908:

"Q. Will you give us now the number of domestic consumers, respectively, in Pennsylvania, Kentucky, Indiana, Maryland and Ohio, who are dependent entirely on West Virginia for their natural gas service, and the number of people?

A. Pennsylvania, 300,000 consumers, one and a half million population; Kentucky, 75,000 consumers, 375,000 population; Indiana, 15,000 consumers, 75,000 population; Maryland, 10,000 consumers, 50,000 population; Ohio 725,000 consumers, 3,625,000 population.

Q. How have you arrived at the population?

A. Estimated five people for each domestic consumer."

Pennsylvania Exhibit No. 46. Offered, page 904 by Mr. Wyer, appearing on page 1598. This exhibit consists of a map showing the principal towns outside of the State of West Virginia depending upon that State for their natural gas service.

Pages 914 to 915:

"Q. If the companies engaged in the business of supplying gas from West Virginia to the communities in

other States as has been described should not adopt the policy of cutting off all such service under the operation of this Act and by notifying the consumers to discontinue all such consumption and continue their business as now taking their chances under the operation of this Act, what would be the effect in your opinion as a natural gas expert and with your knowledge of the situation, upon the health and life and comfort of those domestic consumers who are using natural gas in other States transported from West Virginia?

A. I do not believe that in the operation of the Act any one of those Interstate lines would attempt to use natural gas for the simple reason that there would not be any so the effect on health would be that they would have to get other fuel for heating and cooking and something else for lighting. As far as convenience is concerned there is nothing that they could get that would be in the same class with the natural gas of which they had been deprived. * * *"

CHARLES E. KREBS—DEFENDANT'S WITNESS.

Pages 1102, 1103, 1105, 1106, 1107, 1109, 1010, 1011, 1021.

West Virginia Exhibit 22 to 29, inclusive, offered by defendant's witness Krebs at pages 1002, 1003, 1005, 1006, 1007, 1009, 1010, 1011, 1021, and shown in the record, folio pages 440 to 447, inclusive and 450, consist of charts and diagrams showing the consumption of natural gas for industrial purposes, for domestic purposes and for all purposes, respectively, in the States of Pennsylvania, Ohio, Indiana and Kentucky.

Exhibit No. 32 is a diagram of the production and consumption of natural gas of West Virginia.

All charts and diagrams are for the years 1914 to 1918, inclusive.

Pages 1102 and 1103:

West Virginia Exhibit No. 22, introduced, page 1102, appearing folio 440; title, "Production and Consumption of Natural Gas in the State of Pennsylvania during 1914, 1915, 1916, 1917 & 1918."

X.

THE STATES OF PENNSYLVANIA AND OHIO, IN THEIR SOVEREIGN CAPACITY, IN AND THROUGH THEIR HOSPITALS, INSANE ASYLUMS, PUBLIC SCHOOLS, PENAL INSTITUTIONS AND CHARITABLE INSTITUTIONS ARE CONSUMERS OF NATURAL GAS AND HAVE CONTRACTS FOR THE SUPPLY THEREOF AND ARE DEPENDENT UPON THE USE OF NATURAL GAS EXPORTED FROM WEST VIRGINIA FOR HEAT AND LIGHT AND WILL BE SERIOUSLY AFFECTED BY THE OPERATION OF THE WEST VIRGINIA STATUTE AS TO THE LIFE, HEALTH, SAFETY, COMFORT AND CONVENIENCE OF WARDS AND DEPENDENTS IN SUCH INSTITUTIONS AND WILL FURTHER BE SUBJECTED TO GREAT PECUNIARY LOSS.

HARRY A. QUAY.

Pages 7 and 8:

"A. We sell to practically every municipality in which we serve the public. We have contracts with the State of West Virginia. We also have a contract with the State of Pennsylvania for supplying gas to the Boys' Industrial Home, known as Morganza. The sales last year to them ran something close to 90,000,000 cubic feet. I recollect the highest amount we had, which I think was January, 1919, was something like 15,000,000 feet, or a little over 15,000,000 feet that month. We have in that list 17 contracts, I believe, with the United States Government for supplying gas to Government dams along the Ohio River. And we have a great many con-

tracts with the United States Government for supplying gas to various post-offices in the various towns that we serve in the three States. In addition to that, there are some eight or ten contracts covering gas sold to counties, for instance, like Allegheny County here—for their use.

Q. And what do they use it for, in a general way —the county?

A. Well, mostly in their institutions. They have some gas engines; for laundry purposes, cooking and lighting, and so forth, general purposes.

Q. In State institutions, or County institutions?

A. Yes, sir."

Page 120 (Cross-examination):

The Manufacturers Light & Heat Company supplies State, municipal and county institutions with gas in both West Virginia and Ohio, under contracts.

T. O. SULLIVAN.

Page 223:

The Hope Company supplies various municipalities and Governmental institutions, including water works, government dams, court houses, hospitals, churches and public schools, with gas.

JOHN B. CORRIN.

Page 349:

"You spoke of using gas for lighting purposes; is that done very largely in the better class houses?

A. Well, that depends on what you mean by the better class houses; but there is a lot of gas used for lighting purposes in a great many of these smaller towns, used for street lighting."

H. A. WALLACE.

Page 378:

United Fuel Gas Company statement of gas sold in West Virginia to churches, schools and public buildings for the years 1910 to 1919, inclusive:

	"Number churches, schools, public buildings.	Amount gas sold.
1910	169	267,375,000
1811	55	109,284,000
1912	33	55,373,000
1913	51	55,999,000
1914	69	150,173,000
1915	58	148,303,000
1916	52	231,134,000
1917	52	238,854,000
1918	52	238,710,000
1919	39	137,275,000"

JOHN B. TONKIN.

Pages 422 and 423:

"Q. Do you supply any municipal subdivisions, such as poor houses or poor farms or public buildings in any of these towns and cities, in which your company supplies gas?

A. We do. We supply the court houses and jails and city buildings, public schools, hospitals, hose houses.

Q. All the general public buildings then of the state and municipalities?

A. We do."

W. W. FREEMAN.

Page 458:

"Q. Did you supply any public institutions, such as court houses, poor houses and hospitals?

A. Yes, sir; we have quite a number of those institutions; in addition to which, when gas is available—which it is in all except the cold winter months— the city works in Cincinnati is operated on gas under their boilers, and the water works and municipal plant in Norwood. Also, the Cincinnati General Hospital, which is a very large public institution."

JAMES H. REED.

Pages 500 and 501:

Public buildings supplied with gas by the Philadelphia Company in Allegheny County, Pa.

"PUBLIC BUILDINGS SUPPLIED.

CITY OF PITTSBURGH.

UNITED STATES GOVERNMENT:
United States Bureau of Standards.
United States Public Health Hospital, No. 39.
United States Marine Hospital.
United States Post office and 13 sub-stations.
ALLEGHENY COUNTY:
City-County Building:
CITY (PITTSBURGH):
Public Safety Buildings..... 2
City Market Houses..... 3
Electric Light Plant (N. S.).....
City Play Grounds.....10
City Comfort Stations..... 4
City Asphalt Plants..... 2
Hospitals (3 city).....11
Water Pumping Stations..... 4
Water Department (Misc.).....23
Fire Engine Companies.....43
Police Stations.....11
Miscellaneous City Buildings.....22
Lamps for Street Lighting.....90
Public School Buildings.....93
STATE:
Western State Penitentiary.....
Charitable Homes.....34

Q. And also give us the supplies for the fire departments, public schools, hospitals, post offices, and water pumping stations of the Cities of McKeesport, Braddock, East Pittsburgh, Carnegie, Homestead, McKees Rocks, Sharpsburg, Crafton, Verona, Tarentum, Chrtiers Township, Bridgeville, Scott Township, and Stowe Township. in Pennsylvania?

	Fire Departments.	Public Schools	Hospitals.	Post Offices.	Water Pump Stas.
McKeesport	4	15	1	1	2
Braddock	2	8	1	1	1
East Pittsburgh	2	2	....	1	1
Carnegie	2	4	....	1	....
Homestead	2	4	1	1	....
McKees Rocks	4	5	1	1	....
Sharpsburg	9	8	....	2	4
Crafton	2	2	....	1	....
Verona	2	2	....	1	1
Tarentum	4	6	1	2	....
Chartiers Township	1	3	....	....	....
Scott Township	1	2	....	....	....
Stowe Township	2	2	....	....	1"

J. E. ANGLE.

Pages 538 and 539:

Municipalities and public buildings have been supplied with gas by the Fayette County Gas Company in Westmoreland and Fayette Counties, Pennsylvania, from 1910 to 1919, inclusive.

The following were supplied for 1918-1919:

1918

	M. Cu. Ft.
Uniontown	39,016
Connellsville	12,596
Scottdale	3,525
Mt. Pleasant	1,875
Total	57,012

1919

Uniontown	36,714
Connellsville	14,284
Scottdale	2,937
Mt. Pleasant	1,930
Total	55,865

MARTIN B. DALY.

Pages 574 to 577:

"Q. Do you supply gas to subdivisions of the state, such as municipalities, counties, school boards, and so forth?

A. Yes, sir.

Q. Can you give us approximately a list of your meter connections for subdivisions of the state, such as municipalities, counties, and school boards, as of December 31, 1919?

A. Yes.

Q. Please do so.

A. (Reading):

	Township trustees.	U. S. Govt.	State.	County.	City.	Schools.	Total
Dennison	..	..	..	..	1	2	3
Kent	..	..	..	..	1	4	5
Ravenna	..	..	..	4	2	5	11
Youngstown	..	1	..	5	21	31	58
Girard	..	..	..	..	2	5	7
Hubbard	..	..	..	..	2	2	4
Struthers	..	..	..	..	2	3	5
Lowellville	..	..	..	..	1	..	1
East Palestine	..	..	..	..	2	1	3
Poland	..	..	..	..	1	..	1
New Middletown	..	..	..	..	..	1	1
Petersburg	..	..	..	..	..	1	1
Warren	..	1	..	2	4	9	16
Niles	..	..	..	..	4	3	7
Wooster	..	1	5	3	6	6	21
Orrville	..	..	..	..	1	3	4
Shreve	..	..	..	..	2	1	3
Loudonville	..	..	..	..	3	3	6
Barberton	..	..	..	..	..	3	3
Wadsworth	..	..	..	..	..	2	2
Doylestown	..	..	..	..	1	2	3
Millersburg	..	..	..	..	..	1	1
Danville	..	..	..	..	..	1	1
Gann (Brinkhaven)	..	..	..	..	..	1	1
	2	9	10	23	290	441	775

	Township trustees.	U. S. Govt.	State.	County.	City.	Schools.	Total.
Cleveland & Suburbs	..	4	4	2	170	275	455
Akron	..	1	1	3	31	28	64
Cuyahoga Falls	..	..	..	..	3	1	4
Kenmore	..	..	..	..	3	2	5
Canton	..	..	..	2	11	17	30
North Canton	..	..	..	..	..	1	1
Massillon	..	1	..	..	7	10	18
Dover	1	..	..	..	4	6	11
New Philadelphia	1	..	..	2	3	9	15
Uhrichsville	..	..	..	..	1	2	3

Total churches and parsonages entire system 1,331

Total charitable institutions entire system... 202

T. J. JONES.

Page 632:

"Q. Now Mr. Jones, you may state what if any amount of your gas is distributed to public buildings and for public purposes.

A. Yes, sir, there is.

Q. And where?

A. In the three cities, (Columbus, Dayton and Springfield), we supply gas to the United States Government, to State buildings, County buildings, City buildings, Schools and Hospitals."

L. B. DENNING.

Pages 661 to 664:

Public buildings supplied with gas by the Ohio Fuel Supply Company in Ohio for the years 1910 to 1920, inclusive:

GAS SALES.

	Cons.	Public Buildings M cu. ft.
1910	259	582,165
1911	316	750,379
1912	340	1,019,261
1913	399	794,368
1914	205	557,972
1915	184	426.020
1916	152	376,398
1917	153	322,245
1918	275	297,632
1919	351	271,870
**1920	415	180,356
		5,578,666

**Figures for 1920 are for first 5 months only.

GAS SALES.

Wholesale—Municipalities—Utilities.

	M. cu. ft.
1910	137,854
1911	228,149
1912	273,537
1913	323,557
1914	397,492
1915	418.018
1916	495,132
1917	660.066
1918	853,158
1919	963,766
**1920	496,459
	5,247,188

**Figures for 1920 are for first 5 months only.

Number of Municipalities, Churches, Schools, State Institutions and Public Buildings Furnished Gas During the Year 1919 by The Ohio Fuel Supply Company.

Municipalities	135
Churches	130
Schools	57
State Institutions	43
Public Buildings	170"

J. W. McMAHON.

Page 723:

"Q. To what extent, Mr. McMahon,—give such detail as you may be able to give with reference to your furnishing gas to municipalities, for municipal purposes; public buildings, churches, school houses and so forth?

A. We furnish gas for cooking and hot water, and we did furnish gas for heating to the State Insane Asylum at Toledo until about six years ago when we were obliged to discontinue it. But we now furnish gas for hot water and cooking for the State Insane Asylum in Toledo which has a total of inmates and attendants of between 1,500 and 2,000 people. The Northwestern Company supplies gas to the post office in Bowling Green, to the sub-stations in Toledo, all of the hospitals, orphan asylums, houses for the aged and the charitable institutions of Toledo, and the small towns are supplied with natural gas by our company for cooking and hot water; nearly all the school houses in the municipalities and in the city of Toledo are supplied with gas for cooking, and some of the smaller ones for heating. All of the parochial residences, and that

applies to the churches where they have cooking utensils, with the exception of six or seven out-lying churches that are beyond our lines, are supplied with natural gas. The libraries, to a greater or less degree, are supplied with natural gas; the waterworks for operating their filtration plant in the City of Toledo, and their high pressure stations for fire protection are supplied with gas, and all but one or two of the fire department houses. The entire economic condition, so far as fuel,—cooking is concerned of the city of 243,000 population,—and that applies equally to Bowling Green, North Baltimore, Perrysburg and Maumee, depends upon our supplying natural gas to those consumers."

Page 736 (Cross-examination):

"Q. You had something to say about the supply of gas by your company to hospitals, schools, asylums and institutions of that kind; I assume that that gas is supplied under schedules filed with your Public Utilities Commission under similar circumstances to your supply of domestic gas?

A. Yes, sir.

Q. That is there is no more of a special contract with those institutions than there is with your domestic consumers?

A. With one exception.

Q. What is that?

A. The City of Toledo for their waterworks.

Q. How long has that contract been in existence?

A. About five or six years."

EUGENE P. WHITCOMB.

Pages 761 to 763:

"THE LOGAN NATURAL GAS & FUEL COMPANY.

GAS DELIVERED FOR PUBLIC USE—1919.

	City purposes. M cu. ft.	Public schools & colleges. M cu. ft.	Hospitals. M cu. ft.	State, federal and co. bldgs. M cu. ft.	County homes. M cu. ft
Amanda	679	102	..	..	..
Amherst	401	1,578	1,370	..	..
Ashland	2,056	2,901	2,248	..	504
Ash-Lorain Field	..	790	1,945	..	..
Ashville	55	27	..	—	..
Athens	1,099	10,401	5,816	1,239	1,196
Bellevue	..	708	..	..	..
Belleville	341	391	..	..	..
Berlin Heights	185	1,221	..	44	..
Bucyrus	2,613	1,571	1,158	..	2,288
Butler	79	108	..	..	..
Cardington	156	16	..	..	..
Carey	..	558	..	..	..
Centerburg	259	811	..	..	..
Chillicothe	745	3,118	971	..	..
Circleville	280	224	786	5,137	..
Clyde	..	114	..	..	..
Crestline	..	..	..	..	..
Dover	45	..	..	..	..
Elyria	4,712	315	2,372	2,514	904
Findlay	..	..	..	..	..
Fostoria	525	1,967	..	..	..
Fremont	318	4,880	923	999	..
French Creek	..	..	..	..	..
Galion	..	1,847	773	..	..
Homer	..	..	..	..	..
Kingston	2,143	209	..	..	..
Lexington	..	5	..	..	..

	City purposes. M cu. ft.	Public schools & colleges. M cu. ft.	Hospitals. M cu. ft.	State, federal and co. bldgs. M cu. ft.	County homes. M cu. ft.
Litchfield	..	..	..	..	..
Logan	..	..	..	510	..
Lorain	4,645	2,297	2,044	217	..
Mansfield	2,623	1,097	6,660	490	6,186
Marion	11,233	2,003	..	11,016	..
Milan	209	119	..	118	156
Monroeville	103	269	..	62	..
Mt. Gilead	..	311	..	603	..
Newark	4,964	1 316	1,003	2,291	..
New Riegel	396	107	..	..	..
Norwalk	1,318	921	783	1,588	2,881
Polk	500	203	..	..	..
Rockbridge	..	..	..	..	1,119
Shelby	1,145	674	..	..	..
Spencer	..	..	..	..	..
Stoutsville	..	76	..	..	..
Sugar Grove	569	42	..	..	..
Sycamore	2,068	..	..	..	..
Thornville	737	..	..	..	..
Tiffin	526	9,846	..	661	..
Tiro	488	23	..	..	..
Upper Sandusky	3,982	116	..	2,433	..
Wellington	6,367	..	..	..	..
Westerville	..	1,155	..	..	..
Williard	..	105	..	..	..
	58,564	54,542	28,852	29,922	15,184

THE LOGAN NATURAL GAS & FUEL COMPANY.

PRINCIPAL STATE, COUNTY, AND MUNICIPAL CONSUMERS OF GAS DURING YEAR 1919.

Ashland Colleges, Ashland, Ohio	1,390	M	Cubic	Feet
Samaritan Hospital, Ashland, Ohio	2,448	"	"	"
Amherst Hospital, Amherst, Ohio	1,370	"	"	"
State Hospital, Athens, Ohio	5,816	"	"	"
Ohio University, Athens, Ohio	10,088	"	"	"
County Infirmary, Bucyrus, Ohio	2,288	"	"	"
Court House, Jail, Bucyrus, Ohio	2,613	"	"	"
County Bldgs., Circleville, Ohio	5,137	"	"	"
City Hall, Elyria, Ohio	4,692	"	"	"
Memorial Building, Elyria, Ohio	2,372	"	"	"
County Court House, Elyria, Ohio	1,026	"	"	"
County Jail, Elyria, Ohio	1,485	"	"	"
Police Station and Hose Houses, Lorain, Ohio	4,539	"	"	"
St. Joseph Hospital, Lorain, Ohio	2,044	"	"	"
Ohio State Reformatory, Mansfield, Ohio	6,186	"	"	"
Memorial Building, Mansfield, Ohio	1,504	"	"	"
Mansfield Genl. Hospital, Mansfield, Ohio	6,660	"	"	"
City Fire Engines & Library, Mansfield, Ohio	1,119	M	Cubic	Feet
Garbage Plant, Marion, Ohio	4,945	"	"	"
City Buildings, Marion, Ohio	1,848	"	"	"
County Buildings, Marion, Ohio	10,974	"	"	"
Infirmary, Norwalk, Ohio	2,140	"	"	"
Court House, Norwalk, Ohio	1,512	"	"	"
City Buildings, Norwalk, Ohio	1,275	"	"	"
City Buildings, Newark, Ohio	4,964	"	"	"
Sanitarium, Newark, Ohio	1,003	"	"	"
Court House & Jail, Newark, Ohio	2,291	"	"	"
Schools & Colleges, Tiffin, Ohio	9,847	"	"	"
St. Lighting, Upper Sandusky, Ohio	3,983	"	"	"
Wyandot County Bldgs., Upper Sandusky, Ohio	2,433	"	"	"
Board of Public Affairs, Sycamore, Ohio	2,068	"	"	"
Board of Public Affairs, Welington, Ohio	6,367	"	"	"
Total	118,427	"	"	"

Page 806:

"Q. Your Company has been furnishing gas to both of those state institutions at Athens, namely, the Ohio University and the Hospital for Epileptics or insane or whatever it may be, has it not?

A. It has."

XI.

GAS COMPANIES IN WEST VIRGINIA ARE PUBLIC SERVICE CORPORATIONS OPERATING UNDER FRANCHISES AND EXERCISING THE RIGHT OF EMINENT DOMAIN.

HARRY A. QUAY.

Pages 70 and 71:

"Q. Then the fact remains that, while you are uncertain as to the places at which you have or have not municipal franchises in West Virginia, you are operating, and have been operating for a number of years in the past, under some sort of municipal—

A. Power.

Q. Permission or power or tolerance or acquiescence—is that correct?

A. That is correct."

T. O. SULLIVAN.

Pages 246 to 248:

The pipe lines of the Hope Company are laid over lands over which the Company has a right of way. The company does not own the fee of such lands. Such rights of way for the purpose of laying, maintaining and operating pipe lines, and, in some instances, telephone and telegraph lines, are usually secured from the owner of the property by agreement and for compensation. Sometimes condemnation proceedings are resorted to in case of inability to deal with the owners of the land. The

lines also cross public highways in West Virginia in a number of places and are sometimes laid along such highways. In such cases permits or franchises are secured from the proper officials; in incorporated towns from the town officials. As a specific example, the instance was cited of the City of Clarksburg, from which the Hope Natural Gas Company held a franchise for its pipe line for the purpose of distributing and supplying natural gas to consumers in that city.

H. A. WALLACE.

Pages 381 and 382 (Cross-examination):

The United Fuel Gas Company has acquired rights of way in West Virginia by both purchase and condemnation proceedings. It also possesses a franchise in the City of Huntington, under which it is permitted the use of certain streets and alleys to lay lines connected up with consumers to distribute gas. Similarly in the City of Charleston, West Virginia (p. 386).

JAMES H. REED.

Pages 519 and 520 (Cross-examination):

The principal transmission lines of the Philadelphia Company go across the public roads and in some instances along them in the State of West Virginia. So far as the witness knows the rights to lay and operate these lines are exercised under permission or authority granted by the property State and county authorities in West Virginia. Some of the rights of way were acquired by condemnation proceedings. The Company also holds franchises in the State.

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1016 and 1017:

The great interstate gas companies have rights of way for their pipe lines across and along the roads in West Virginia, which rights were granted by the County Courts, and similar franchises permitting them to erect telephone and telegraph lines of their own along the public roads; where the companies serve natural gas in various incorporated towns and villages in the State, they furnish the supply of this gas under franchises.

J. S. LAKIN—DEFENDANT'S WITNESS.

Pages 1174 and 1175:

The Hope Natural Gas Company holds eight franchises transferred to it by deeds by the Mountain State Gas Company to furnish gas, which have been granted by the municipalities of Parkersburg, St. Marys and Sistersville, of Wood and Pleasants Counties, West Virginia.

CHARLES A. SHORT—DEFENDANT'S WITNESS.

Page 1276:

The Pittsburgh and West Virginia Gas Company, supplying gas to Shinnston, West Virginia, holds a gas franchise, as does also the Home Petroleum Company, supplying gas to the same town.

F. C. DEVERICKS—DEFENDANTS' WITNESS.

Pages 1363 and 1364:

Offered in evidence:

Certified copies of franchises granted by the County Court of Harrison County for the use of the public roads of the county to the Reserve Gas Company. Hope Natural Gas Company and Hutton Gas Company, respectively, through the years 1905 to 1907.

W. C. ALLMAN—DEFENDANT'S WITNESS.

Page 1215:

During the period of six years immediately preceding January 1, 1921, while the witness was Clerk of the Circuit Court of Lewis County, West Virginia, there were a number of proceedings by way of condemnations for pipe lines brought principally by the West Virginia Central Gas Company, the Hope Gas Company, the Reserve Gas Company and the Pittsburgh and West Virginia Gas Company, or Philadelphia Company of West Virginia.

Copies of the court records of proceedings for these condemnations were offered in evidence and marked West Virginia Exhibit No. 45.

I. WADE COFFMAN—DEFENDANT'S WITNESS.

Pages 1216 and 1217:

During the period of witness' service as Clerk of the Circuit Court of Harrison County, various condemna-

tion proceedings for pipe lines for the transportation of natural gas were brought by gas companies, including the Hope Natural Gas Company, the Carnegie Natural Gas Company, the Fairmont & Grafton Gas Company, the Philadelphia Company of West Virginia and the Pittsburgh & West Virginia Gas Company.

Certified copies of the court records relative to the above were offered in evidence and marked West Virginia Exhibit No. 50.

West Virginia Exhibits Nos. 46 to 49, inclusive, consist also of certified copies of court records showing condemnation proceedings by the various companies in West Virginia courts for rights of way.

F. C. DEVERICKS—DEFENDANT'S WITNESS.

Page 1363:

Offered in evidence:

Certified copy of the proceedings has in the condemnation proceedings of Wheeling Natural Gas Company against Enos D. Tennant and others, marked West Virginia Exhibit No. 51.

West Virginia Exhibit No. 52,— offered at page 1364, appearing at page 1917, showing grants of franchises by communities in West Virginia to gas companies operating in that State.

H. E. NEASE—DEFENDANT'S WITNESS.

Page 988:

West Virginia Exhibits Nos. 9 to 15, inclusive, offered at page 988, appearing at Folios 270 to 378, inclusive.

These exhibits consist of reports respectively made by the Hope Natural Gas Company, the Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and The Manufacturers Light & Heat Company to the Board of Public Works of the State of West Virginia.

F. C. DEVERICKS—DEFENDANT'S WITNESS.

Pages 1364 and 1365:

West Virginia Exhibits Nos. 53 to 59, inclusive, offered at pages 1364 and 1365, appearing at pages 1922, 1929, 1934, 1938, 1940 and 1942, respectively.

These exhibits consist of copies of rate applications made by the Hope Natural Gas Company, United Fuel Gas Company, Pittsburgh and West Virginia Gas Company, Reserve Gas Company and The Manufacturers Light & Heat Company, respectively.

XII.

THE RELATION OF THE HOPE NATURAL GAS COMPANY, PITTSBURGH AND WEST VIRGINIA GAS COMPANY, UNITED FUEL GAS COMPANY, COLUMBIA GAS AND ELECTRIC COMPANY AND THE MANUFACTURERS LIGHT & HEAT COMPANY TO OTHER PRODUCERS OF GAS AND GAS COMPANIES OPERATING IN WEST VIRGINIA AND THE RESPECTIVE HOLDINGS OF WELLS, LEASES, PRODUCTION, THE AMOUNT OF GAS EXPORTED BY SAID COMPANIES, MILES OF PIPE LINES OWNED, &C.

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 995 and 996:

"Q. Are you able to give us the figures as to what percentage of the total net supply for public service of West Virginia Gas is controlled by these seven companies?

A. I am.

Q. Are your figures in that regard based upon the information and knowledge you have testified about previously?

A. They are.

Q. Will you give us in the record the total net supply for public service of all gas produced in West Virginia and then the net supply for the seven companies; then the percentage of the total net supply which

is controlled by the seven companies for the years 1911 to 1919, inclusive?

Answer—

Statement Showing Total Net Supply for Public Service of Natural Gas Produced within West Virginia and the Total thereof of the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company Combined for the Seven Companies.

1911-1919.

	Total net supply for public service.	Net supply of the seven companies.	Percentage of the net supply of the seven companies to the total net supply.
	M cu. ft.	*M cu. ft.*	
1919	183,687,047	164,426,341	89.5%
1918	227,649,823	201,685,702	88.6%
1917	245,620,686	223,517,777	91.0%
1916	259,414,200	200,892,583	85.1%
1915	207,777,882	179,694,495	82.1%
1914	200,762,645	166,625,730	83.0%
1913	209,131,295	167,897,746	80.3%
1912	203,112,738	172,050,962	84.7%
1911	173,132,353	147,431,246	85.1%

Pages 996 and 997:

"Q. Are you able to give us a statement which will show the amount of gas produced in West Virginia which is used by the West Virginia consumers, and the percentage thereof with reference to the total net supply of such gas?

A. I have such a statement.

Q. Please put it in the record.

Answer—

Statement Showing Total Net Supply for Public Service of Natural Gas Produced within West Virginia and Total thereof Furnished to West Virginia Consumers.

1911-1919.

	Total net supply for public service. *M cu. ft.*	Sales to West Va. consumers *M cu. ft.*	Percentage of the total net supply sold to West Va. consumers
1919	183,687,047	46,654,098	25.4%
1918	227,649,823	52,985,173	23.3%
1917	245,620,686	48,942,388	19.9%
1916	259,414,200	59,409,460	22.9%
1915	207,777,882	53,147,718	25.6%
1914	200,762,645	50,600,709	25.2%
1913	209,131,295	53,629,419	25.6%
1912	203,112,738	51,968,488	25.6%
1911	173,132,353	40,265,294	23.3%

Q. The column on that statement just given, and under the heading "Total net supply for public service" is the total net public supply for the state, is it not?

A. It is of all gas produced within the state.

Q. Now, under the next heading, "Sales to West Va. consumers," have you embraced all of the consumers in West Virginia?

A. That is consumption that was used in public service or delivered to the public.

Q. And the third heading is the percentage which the amount so used in West Virginia bears to the total public supply?

A. Yes."

Page 997.

"Statement Showing Total Net Supply for Public Service of Natural Gas Produced within West Virginia of the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manuacturers Light and Heat Company and the Total Thereof Furnished by the said Seven Companies to West Virginia Consumers:

1911-1919.

	Total net supply of the seven companies.	Sales to West Virginia consumers.	Percentage of total supply of seven companies sold to West Virginia consumers.
	M cu. ft.	*M cu. ft.*	
1919	164,426,341	29,360,811	17.9%
1918	201,685,702	30,120,273	14.9%
1917	223,517,777	26,889,876	12.0%
1916	220,892,583	24,526,859	11.1%
1915	170,694,495	18,860,867	11.0%
1914	166,625,730	20,612,599	12.4%
1913	167,897,746	22,297,677	13.3%
1912	172,050,962	21,101,443	12.3%
1911	147,431,246	17,200,747	11.7%"

Pages 1011 and 1012:

Statement Showing Counties in West Virginia Operated within and Municipalities Served by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company and the Population of Such Counties and Municipalities as of December 31, 1919.

Counties.	Population, 1920.	Number of companies operating within	No. of Municipalities served. & population thereof.	
			No. served.	Population
Barbour	18,028	2	....	.....
Boone	15,319	1	....	.....
Braxton	23,973	33	....	.....
Brooks	16,527	2	4	8,667
Cabell	65,746	2	2	51,151
Calhoun	10,268	3	....	.....
Clay	11,486	2	....	.....
Doddridge	11,976	5	....	.....
Fayette	60,377	1	....	.....
Gilmer	10,668	4	....	.....

Statement Showing Counties in West Virginia Operated within and Municipalities Served.—Continued:

Counties.	Population, 1920.	Number of companies operating within	No. of Municipalities served. & population thereof.	
			No. served.	Population
Hancock	19,975	1	3	6,312
Harrison	74,793	5	....	.....
Jackson	18,658	1	2	1,864
Kanawha	119,650	3	4	45,107
Lewis	20,455	4	....	.....
Lincoln	10,378	2	....	.....
Logan	41,006	2	1	2,998
Mason	21,459	1	....	.....
Marion	54,571	4	3	4,881
Marshall	33,681	4	3	18,798
Mingo	26,364	2	2	7,455
Monongalia	33,608	4	1	218
Niccolas	20,717	1	....	.....
Ohio	61,006	1	....	.....
Pleasants	7,379	3	1	1,648

Statement Showing Counties in West Virginia Operated within and Municipalities Served.—Continued:

	Population, 1920	Number of companies operating within	No. of municipalities served & population thereof.	
			No. served	Population.
Putnam	17,531	2	1	666
Raliegh	42,482	2	....	.....
Ritchie	16,506	4	....	.....
Roane	20,129	1	3	2,423
Taylor	18,742	2	1	8,517
Tyler	14,186	4	4	4,555
Upshur	17,851	2	....	.....
2236				
Webster	11,562	1	....	.....
Wetzel	23,069	4	7	7,496
Wirt	77,536	1	....	.....
Wood	42,306	2	2	21,843
Wayne	26,012	2	5	4,870
Totals	1,065,980	....	49	199,469

Page 1015:

West Virginia Exhibit No. 18, offered at page 1015 by witness Nease, appearing at Folios 402 to 412.

Statement showing number of consumers in West Virginia furnished natural gas by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas & Electric Company, and The Manufacturers Light & Heat Company, combined for the seven companies.

NOTE: This includes 18-A to 18-J, which give the consumers for each of said companies separately.

The Exhibit setting forth the figures for the combined companies shows that they furnished a total of 34,400 consumers in West Virginia in 1910, and that this number increased gradually to 58,841 in 1919. Domestic and industrial consumers and local utilities are included.

Page 1018:

West Virginia Exhibit No. 19, offered at page 1018, appearing at Folios 414 to 423.

Statement showing distribution of the net supply of West Virginia natural gas combined for the seven companies.

NOTE: This includes 19-A to 19-I, which show figures for each company separately.

The figures for 1911 and 1919 are as follows:

	Total furnished to West Virginia consumers	Transported, or sold for transportation to other states
1919	29,360,811,000 cu. ft.	135,065,530,000 cu. ft.
1911	17,200,747,000 cu. ft.	130,230,499,000 cu. ft.

Pages 1037 and 1038:

The Manufacturers Light & Heat Company produces gas, has pipe lines or serves consumers in the following West Virginia counties: Doddridge, Harrison, Marion, Monongalia. Tyler, Wetzel, Marshall, Ohio, Brooke and Hancock; the Reserve Gas Company in Harrison, Lewis, Ritchie, Wood, Pleasants and Doddridge.

The Pittsburgh and West Virginia Gas Company has such service in the counties of Braxton, Doddridge, Gilmer, Harrison, Lewis, Marion, Monongalia, Ritchie, Taylor, Tyler and Wetzel.

The Carnegie Natural Gas Company produces, has pipe lines or serves consumers in Braxton, Doddridge, Gilmer, Harrison, Lewis, Taylor, Tyler, Marion, Monongalia Ritchie and Wetzel.

The Hope Natural Gas Company in Barbour, Braxton, Calhoun, Doddridge, Gilmer, Harrison, Lewis, Marion, Marshall, Monongalia, Pleasants, Ritchie, Rome, Tyler, Upshur, Wetzel and Wirt; also Wood and Taylor.

The Columbia Gas and Electric Company covers the counties of Cabell, Lincoln, Putnam and Wayne.

The United Fuel Gas Company in Boone, Cabell, Calhoun, Clay, Gilmer, Jackson, Kanawha, Lincoln, Logan, Mingo, Putnam, Poane and Wayne.

Pages 1062 and 1063:

The large interstate gas companies supply much free gas to consumers in West Virginia, for obtaining rights of way, &c. This free gas is not included in West Virginia Exhibit No. 16.

CHARLES E. KREBS—DEFENDANT'S WITNESS.

Pages 1101 and 1102:

The amount of gas shipped out of the State of West Virginia for the years 1914 to 1918, inclusive: for the year 1914, 141,341,928 M. cubic feet were shipped out of West Virginia, that being 59.77 of the total production; for the year 1915 there were shipped out of West Virginia 149,027,454 M. cubic feet, or 61.08 per cent. of the total production; for the year 1916 there were shipped out of West Virginia 194,214,899 M. cubic feet of gas or 64.90 per cent. of the total production; for the year 1917 there were shipped out of West Virginia 193,128,909 M. cubic feet, or 62.58 per cent. of the total production, and for the year 1918 there were shipped out of West Virginia 157,487,473 M. cubic feet, or 59.12 per cent. of the total production of gas in the State.

J. K. ANDERSON.

Pages 815-817:

Pennsylvania Exhibit No. 28, offered at page 815, appearing at page 1566.

Showing natural gas production statistics for the year 1919 in West Virginia, being also a record of gas production and purchases. This table shows the gas produced by natural gas utilities and the gas purchased from other than utilities, together with the totals, first, in all States, and, secondly, in West Virginia.

Pennsylvania Exhibit No. 29, offered at page 817, appearing at page 1567.

This is a chart showing the production and consumption of natural gas in the State of West Virginia for the years 1904 to 1920. This chart shows that the production of natural gas rapidly increased from 1908 to 1917, since which time it has steadily declined, and that the consumption from 1908 to 1917 gradually increased, from which time it has slightly declined.

H. E. NEASE.

Pages 994 and 995:

West Virginia Exhibit No. 16, offered at page 995, appearing at Folios 379 to 388, showing the supply of natural gas produced and acquired within West Virginia by the great interstate gas companies.

Exhibit No. 16 is a combined report. Exhibits Nos. 16-A to 16-I, inclusive, are separate reports on the same subject for the years 1911 to 1918, inclusive.

CHARLES E. KREBS.

Pages 1092 and 1093:

The quantities of gas produced in the State of West Virginia for the years 1914 to 1918, inclusive, are as follows, according to the reports of the United States Geological Survey:

For the year 1914, 236,489,175 M cubic feet;
For the year 1915, 244,004,159 M " " ;
For the year 1916, 299,318,907 M " " ;
For the year 1917, 308,617,101 M " " ;
For the year 1918, 265,160,917 M " " ;

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1165 to 1168:

Monthly reports of gas production of the Hope Natural Gas Company for July, 1919, showing cities and towns served in West Virginia; active domestic and industrial consumers in those towns; total of meters in use, and volume in Cubic feet of gas sold. Showing gas sold to various utilities; showing industrial and domestic consumers served and the volume of cubic feet of gas furnished through the field and main lines of the Company. The total gas sales for the month amounted to 3,426,445,000 cubic feet to the consumers above named. The total gas purchased in and out of West Virginia for that period was 1,329,097,000 cubic feet.

EDWIN ROBINSON.

Page 1382:

Pennsylvania Exhibit No. 51, offered at page 1382 by witness Robinson, appearing at page 1605.

This is a statement showing the production and consumption of natural gas within West Virginia, importations to and exportations from the State, for the year ending December 31, 1919.

	Production within West Virginia.	Importations to West Virginia from other States	Total of columns 1 and 2	Consumption within West Virginia	Exported from West Virginia to other States.
Total 1919	219,886,837	3,822,162	223,708,999	83,769,937	139,939,062
Total 1918	280,289,044			105,624,394	174,664,650

Page 1382:

Pennsylvania Exhibit No. 52, offered at page 1382 by witness Robinson, appearing at pages 180a-181 (following page 1605):

Statement showing classification of consumption of natural gas within the State of West Virginia for the year ended December 31, 1919.

	Number of domestic consumers.	Domestic sales (M cu. ft.)	Number of industrial consumers.	Industrial* sales (M cu. ft.)	Consumption by carbon black factories (M cu. ft.)	Total (M cu. ft.)
Totals 1919	130,780	18,699,309	1,911	44,306,839	20,763,790	83,769,937
Totals 1918	125,341	19,618,873	1,542	52,005,521	34,000,000	105,624,394

*Includes Free Gas, Drilling Wells, etc., Sales.

Page 1383:

Pennsylvania Exhibit No. 53, offered at page 1383 by witness Robinson, appearing at page 1606:

"Ebert's Statement on West Virginia Natural Gas Production, Importation, Sales, and Exportation for Year 1920:

Pa. Exhibit No. 53. 3-21-1921. J.R.S.

Inspection Department, Gas Utilities.

Summary of the Natural Gas Production, Importation, Sales, and Exportation for the Fiscal Year Ending June 30, 1920.

I.	Sold in cities and towns in W. Va.	51,525,765 Mcf.		
J.	Sold in field and main lines in W.Va.	35,883,029 "		
K.	Total sales in W. Va.	87,408,794 "	87,408,794	Mcf.
L.	Sold to W. Va. utilities		48,806,800	"
M.	Exported from W. Va.		142,519,562	"
N.	Line loss, etc.		66,357	"
O.	Credit total		278,801,513	"
C.	Purchased from W. Va. producers	34,932,777 Mcf.	from 1,074-2/12 wells*	
E.	Purchased from W. Va. utilities	49,012,245 "		
F.	Imported to W. Va.	5,435,663 "		
G.	Error in reporting	326 "		
	Total purchases and imports	89,381,011 "	89,381,011	Mcf.
B.	Produced by utilities from 7,709-5/12 wells*		189,420,502	"
H.	Debit total		278,801,513	"

In item F, 755,666,000 cubic feet of the 5,435,663,000 was 'forced importation' through a main trunk line, from the McKeesport, Pa., gas field, while the latter was in its prime. While the utility exports gas to Pennsylvania regularly and imports none from Pennsylvania, it was compelled to take the quantity named above during one month.

Charles B. Ebert,
Acting Chief Inspector.

*Monthly average of wells.

Page 1378:

Pennsylvania Exhibit No. 50, offered at page 1378, by witness Robinson, appearing pages 1603, 1604 and 1605:

Natural Gas Statistics—State of West Virginia.

The total production of natural gas within the State of West Virginia, for the year ended December 31, 1919, was approximately 220 billion cubic feet. Approximately 80 billion cubic feet of the State's production (or the equivalent thereof) and 4 billion cubic feet of imported gas was consumed within West Virginia and approximately 140 billion cubic feet piped to other States.

The production of natural gas within West Virginia for the years 1908 to 1919, both years inclusive, was as follows:

Year	Cubic Feet.
1908	112,181,278,000
1909	166,435,092,000
1910	190,705,869,000
1911	206,890,576,000
1912	239,006,682,000
1913	245,453,985,000
1914	236,489,175,000
1915	244,004,159,000
1916	299,318,907,000
1917	289,898,967,000
1918	280,289,044,000
1919	219,886,837,000

The statement following shows the quantity of natural gas exported from the State.

Year	Exported from State (cubic feet)	Percentage of State's total production
1908	61,644,618,000	55%
1909	96,074,387,000	58%
1910	120,508,811,000	63%
1911	132,867,059,000	64%
1912	151,144,250,000	63%
1913	155,501,876,000	63%
1914	150,161,936,000	63%
1915	154,630,164,000	63%
1916	200,004,740,000	67%
1917	196,679,263,000	68%
1918	174,664,650,000	62%
1919	139,939,062,000	64%

Industrial Consumers.

Year	Gas Consumed (cubic feet)	Percentage of State's total production
1909	60,453,682,000	36.4%
1910	59,023,550,000	31.1%
1911	62,711,802,000	30.5%
1912	74,574,273,000	31.4%
1913	76,990,310,000	31.7%
1914	72,062,030,000	31.0%
1915	74,153,788,000	30.7%
1916	83,767,519,000	27.9%
1917	76,816,465,000	26.5%
1918	86,005,521,000	31.1%
1919	65,015,951,000	27.5%

Large quantities of natural gas are used within the State in the manufacture of carbon black. The average yearly consumption for the last ten years for this purpose was approximately 23 billion cubic feet per year. During the year 1919, approximately 21 billion cubic feet was used for this purpose. The figures for "Industrial Consumption" include this gas.

Prepared by H. E. Nease, Statistician, Public Service Commission of West Virginia.

HARRY A. QUAY.

Page 160:

The Hope Natural Gas Company has no stock in The Manufacturers Light and Heat Company.

JOHN B. CORRIN.

Page 356:

"Q. Can you give us the names of some of the larger companies that are operating in the State of West Virginia—I mean gas companies—with which the Standard interests are in no way affiliated?

A. The Philadelphia Company or otherwise the Pittsburgh and West Virginia; The Carnegie Natural Gas Company; The United Fuel Gas Company; The Manufacturers Light and Heat Company; The West Virginia Central; The Fayette County Gas Company, and numerous smaller companies."

H. A. WALLACE.

Pages 378-379:

"The United Fuel Gas Company * * * is not owned or controlled by the Standard or any affiliated companies

belonging to the Standard in any way. * * * The capital stock of the United Fuel Gas Company is owned by the Columbia Gas & Electric Company and the Ohio Fuel Supply Company."

W. W. FREEMAN.

Page 469:

"* * * There is no financial connecting whatever between the Ohio Fuel Supply Company and the Columbia Gas and Electric Company."

JAMES H. REED.

Page 508:

"* * * The Philadelphia Company * * * stock is very much scattered and, to my knowledge, no person connected with any of the Standard Oil interests has any interest."

J. E. ANGLE.

Pages 553-554:

"Q. Do you know whether or not the Fayette County Gas Company is in any way connected or affiliated with any of the so-called Standard companies?

A. Not that I know of."

T. J. JONES.

Page 638:

"Q. And who is the owner of the Columbus Gas and Fuel Company and the Federal Gas and Fuel Company?

A. The Pure Oil Company."

L. B. DENNING.

Page 658:

"The Ohio Fuel Supply Company owns all of the stock of the Northwestern Ohio Natural Gas Company."

Page 682:

" * * * So far as operation or management or dictation or control of company policy is concerned the group of men commonly designated as 'Standard Oil' nor any of the Standard Oil companies have anything whatever to say as to the management and control or dictation of policy of the Ohio Fuel Supply Company."

JOHN B. CORRIN.

F. B. ROBINSON.

Pages 353-1205:

The Standard Oil Company of New Jersey owns about 51% of the stock of the Clarksburg Light and Heat Company.

JOHN B. CORRIN.

JOHN B. TONKIN.

Pages 321, 424:

The Standard Oil Company of New Jersey owns the stock of and controls the River Gas Company and the Peoples Natural Gas Company; the Hope Natural Gas Company and the Union Gas Corporation own all

the stock of the Reserve Natural Gas Co. and Connecting Gas Companies in the proportion of about 51% and 49% respectively.

HARRY A. QUAY.

Page 1508-Pa. Exhibit No. 14.

The number of Stockholders in the Manufacturers Light and Heat Company total 4,170.

H. E. NEASE.

Pages 998 and 999:

Some of the larger oil companies produce gas to a limited extent, and such companies as the South Penn Oil Company, which is closely allied with the Hope Natural Gas Company and the Reserve Gas Company, market their gas to the Hope Natural Gas Company and the United Fuel Company. The Ohio Fuel Oil Company is a large gas producing company and in its earlier years it was closely allied to the United Fuel Gas Company. The Carter Oil Company is allied to the Hope and Reserve Companies, these being Standard Oil Companies. These affiliated oil companies market their gas to the kindred gas companies. The Ohio Fuel Oil Company sells practically all the gas that it produces to the United Fuel Gas Company. The South Penn sells practically all of the gas that it produces (or did until recently) to the Fayette County Gas Company, which is closely allied with the Hope Company.

Page 1019:

The records of the Public Service Commission of the State of West Virginia show that 212 independent producers market their gas to the large interstate companies.

Page 1021:

Some of the large interstate gas companies exchange gas. For example, the Reserve Gas Company handled through its lines some gas for the Hope Gas Company and there is now an arrangement between the Pittsburgh and West Virginia Gas Company and the Eastern Oil Company group, by which the Pittsburgh and West Virginia exchanges some gas in the territory where the Eastern Oil Company group companies are operating for some isolated production that the Eastern Oil Company group has from one well in Gilmer County. They are now building a pipe line to that well of the Eastern Oil Company in Gilmer County.

Statement Showing Productive Gas Wells within West Virginia.

1910-1918.

Dec. 31—	Total all producers	Hope Nat. Gas Co., Pgh. & W. Va. Gas Co., United Fuel Gas Co., Reserve Gas Co., Car. Nat. Gas Co., Col. Gas & El. Co., Mfg. L. & H. Co.	Percentage of total owned by the seven companies.
1918	9,687	7,086	73.2%
1917	9,329	6,763	72.5%
1916	8,542	6,161	72.1%
1915	7,718	5,458	70.7%
1914	7,194	5,037	70.0%
1913	6,534	4,578	70.1%
1912	5,604	3,897	69.6%
1911	4,790	3,354	70.0%
1910	4,052	2,890	71.3%

Page 1030:

The Pittsburgh and West Virginia Company has taken over the properties of the Fairmont Natural Gas Company and the properties of the Philadelphia Company of West Virginia. The Pittsburgh and West Virginia Company is the changed name of the old Fairmont and Grafton Gas Company, a local West Virginia corporation, the control of which passed into the hands of the Pittsburgh and West Virginia Company in 1913.

Page 1031:

The United Fuel Gas Company acquired the properties of the United States Natural Gas Company:

> "The United Fuel Gas Company has acquired no other—the property of no other natural gas utility companies. The United States Natural Gas Company, however, the company which it acquired, as I have stated, was made up of numerous smaller natural gas companies, including the Triple State Natural Gas Company, The Kanawha Natural Gas, Light & Fuel Company, The Charleston Natural Gas Company and some of the properties of the Kanawha Gas Company. The United Fuel Gas Company was reorganized along about the time it took over the properties of the United States Natural Gas Company and its stock very greatly increased. At this time it also took over from the Hope Natural Gas Company a great block of leases, south of the little Kanawha River.
>
> I think that about covers the development of the company."

Pages 1032 and 1033:

The Standard Oil Company of New Jersey was at one time interested in the United Fuel Gas Company, and the majority of the stock up until 1910 was held by the Standard Oil Company of New Jersey. The United Fuel Gas Company has transferred considerable gas territory to the Hope Company. There is an agreement between the United Fuel Gas Company and the Hope Natural Gas Company, or the interests controlling these two companies, with reference to the territory north of the Kanawha River and the territory south of the Kanawha River.

Pages 1081 and 1082:

The Standard Oil Company has been dissolved by a decision of the Supreme Court of the United States, and the stock of the South Penn Oil Company was distributed among the individual stockholders.

J. S. LAKIN—DEFENDANT'S WITNESS.

Pages 1169 to 1174:

By deed dated June 27th, 1911, the Wheeling Natural Gas Company, Tri-State Gas Company and The Manufacturers Light & Heat Company, West Virginia corporations, and The Manufacturers Light & Heat Company, a Pennsylvania corporation, granted and transferred to the Hope Natural Gas Company, a West Virginia corporation, 892 leases of gas land covering 65,205.15 acres located in Harrison, Lewis, Marion, Upshur, Braxton and Gilmer Counties; also 20 gas-purchase contracts covering gas produced from 9839.75 acres; also over 100 rights of way over various farms; also 177,867 feet of pipe lines.

By deed dated April 1, 1910, the Mountain State Gas Company, a West Virginia corporation, transferred certain property to the Hope Natural Gas Company, including 180 leases of gas territory covering 23,610 acres located in Ritchie, Gilmer, Pleasants, Wirt, Tyler, Wetzel and Calhoun Counties, W. Va.; also over a thousand rights of way over farms in the counties above named and also in Lewis, Harrison, Doddridge and Wood Counties, West Virginia. The same deed transferred 101 wells in Pleasants, Ritchie, Tyler, Wetzel, Calhoun, Gilmer and Wirt Counties, West Virginia. The deed further transferred to the Hope Company eight franchises given by the municipalities of Parkersburg, St. Marys and Sistersville.

B. F. ROBINSON—DEFENDANT'S WITNESS.

Pages 1204 and 1205:

There was a merger of the Clarksburg Light & Heat Company and the Mountain State Gas Company which included a transfer to the former of all the property of the latter, and, in addition the property and franchise of the West Fork Oil & Natural Gas Company, with the exception of some leases which had previously been sold. Of the stock in the new company formed by the merger, 51 per cent. was subscribed for by interests representing the Standard Oil Company of New Jersey. The latter are represented by four of the seven stockholders constituting the Board of Directors.

HARRY A. QUAY

Pages 12-13:

"In practically all gas fields there is more or less competition; and the belief is if you don't sell the gas,

your competitors draw on that territory and sell it, and that you had better sell your gas, what you can, before the other fellow sells it. Competition has been so keen that we have always attempted to sell practically all the gas drilled. Years ago, when there was not the demand for natural gas that there is today, there was a large surplus amount of gas, and we made great efforts to find markets for the gas and dispose of it. I don't wish to imply that those same conditions still apply to the present day."

Page 46:

"The competitive bidding for leases, I consider, is very much more extensive now than perhaps formerly. There is keen competition for leases.

T. O. SULLIVAN

Page 220:

"In my opinion, it (competition) is more pronounced than ever before."

JOHN B. CORRIN.

Page 357:

"There certainly has been strong competition, and we feel that competition is stronger today than it ever was. There is a greater demand for gas territory now than there ever has been, and a greater endeavor by these different gas companies to get it—even reasonably good territory."

H. A. WALLACE.

Page 371:

"There is a large amount of competition along the line of taking up leases, and it is steadily increasing. That is, competition is getting stronger."

J. K. ANDERSON.

Page 827:

"There is an active competition between large companies and smaller producers in endeavoring to lease new territory in new fields."

GEORGE W. WILSON—DEFENDANT'S WITNESS.

Pages 1302 and 1303 (Cross-examination):

There is pretty vigorous competition between the Hope Company and the Pittsburgh & West Virginia Company to obtain the gas production of the independent producers in the fields where those companies have pipe lines.

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1026, 1034, 1035, 1036:

Some of the larger cities in West Virginia, such as Morgantown, Fairmont, Clarksburg, Weston, Shinnston, Lumberport, Bridgeport, Salem, Pennsboro Harrisville and Cairo are served by local utilities. There are also a great many cities and towns served by local utilities in the southern section of the State. Some of the larger companies sell gas to local utilities which supply the local communities, for example: The Carnegie Natural

Gas Company sells gas to the West Virginia Traction and Electric Company which supplies Morgantown; the Pittsburgh and West Virginia Gas Company sells gas to utilities serving Fairmont, Marion County, and vicinity of Glenville; the Clarksburg Light and Heat Company serves Clarksburg and the vicinity; the Light, Fuel & Power Company serves Sutton, Braxton County, and, indirectly, Gassaway and various smaller towns in Braxton County; the Keener's Oil, Natural Gas and Fuel Company serves Weston, Lewis County; the Comet Oil and Gas Company serves Pruntytown and some smaller towns in Taylor County; the West Virginia Heat and Light Company serves the towns of Ellenboro, Pennsboro and Cairo in Ritchie County; the Clarksburg Light and Heat Company secures gas from the Hope Natural Gas Company; the United Fuel Company sells gas to Charleston-Dunbar Natural Gas Company which supplies a small portion of Charleston, the incorporated cities of Saint Albans and South Charleston, and the towns of Dunbar, Spring Hill and Institute in Kanawha County. The Columbia Gas and Electric Company and the Reserve Gas Company do not sell any gas to local utilities.

CHARLES A. SHORT—DEFENDANT'S WITNESS.

Pages 1295, 1296:

The smaller gas companies in West Virginia are unable to go out in the field, purchase gas and have it transported to their lines by the pipe line companies. The larger companies have never made a practice of exchanging gas with the small local companies. An attempt on the part of the Home Petroleum Natural Gas Company to purchase natural gas from the Hope people in Pittsburgh was unsuccessful.

B. F. ROBINSON.

Pages 1208; 1212, and 1214:

I. WADE COFFMAN.

Page 1219:

R. T. CUNNINGHAM.

Pages 1234 to 1236, and 1247 and 1248:

CHARLES M. SNAITH.

Pages 1254, 1258, 1266, 1267, 1268 to 1270, and 1273:

CHARLES A. SHORT.

Pages 1275, 1277; 1277 to 1279, 1288 and 1289, 1293, and 1295:

VANCE L. HORNER.

Pages 1305, 1306, 1307; 1307 and 1308 and 1310 and 1311:

PARK BOWSER.

Pages 1331 and 1332, and 1335 and 1336.

F. C. DEVERICKS.

All the above are Defendant's Witnesses.

Pages 1351 to 1354, 1353 and 1354, 1357 and 1358, and 1361 to 1363:

Prior to and coincident with the operation of the great interstate gas companies in the gas industry, independent producers and small local gas companies operated in West Virginia. As a general rule the independent producers did not proceed to develop discoveries of gas producing sands into a complete gas industry or business. They were usually content to find a market in some company already operating and furnishing gas to consumers in order that they, the independent producers, would not be compelled to undergo the expense laying pipe lines or of building pump or compressor stations. Sometimes their interests lay rather in the speculative field of the gas industry than in the developing and distributing lines. Most often their operations consisted in selling gas as quickly as possible to the larger companies.

F. C. DEVERICKS—DEFENDANT'S WITNESS.

Pages 1353 and 1354:

"A. The rule was this: That those who were financailly able to do it would rather have had the large acreage, but those who were simply promoters and cared but little whether it was a productive well or non-productive well, preferably non-productive, in some cases where they would be selling interests, and there would be more money in not having a well produce than there would be in having it produce.

Q. I wish you would give the formula for that. It is rather a new adventure in finance. Will you explain to us how it would be profitable for promoters, even in West Virginia, to take up a property and make more money out of it when it would not produce than when it did?

A. This is not for the record——

Q. Yes, this is for the record.

A. All right, then I will say this: There has been a great many men who came here following the oil business, who would promote a company, and not only here, but every other field throughout the United States, I think I am safe in making it the United States, who have gone into the territory and gathered up leases, or a lease, rather, a small acreage, and started out to sell a one-thirty-second or a sixteenth or a quarter or one-eighth or something like that, simply for the money that they would be able to obtain for those interests in excess of what it would cost to drill a well, and there has been men who lived on that; and we had a recent example of that in McKeesport, and I am surprised that counsel had never heard of McKeesport.

Q. Do you want that to go down to the court as your answer to my question?

A. I asked for permission not to put that in the record. Every word of which is true.

Q. Is that your answer to my question? And I ask the stenographer to repeat the question to the witness.

(The question read by the stenographer as follows):

"Q. I wish you would give the formula for that. It is rather a new adventure in finance. Will you explain to us how it would be possible for a promoter, even in West Virginia, to take up a property and make more money out of it when it would not produce than when it did?"

Q. Now, the question having been read, I repeat and ask you if you want the answer you just made to be your answer?

A. It is the formula you are asking for. That is the formula. The answer which I gave you is the formula."

So far as regards the local companies, their operations are almost invariably carried on in a small way, at least when compared to those of the larger interstate companies. A few specific examples may be cited: For instance, the Monongahela Valley Traction Company has approximately 18,000 acres of gas territory in the region of Fairmont, five or six thousand acres of which are developed. The Home Petroleum Gas Company owns some 250 acres in Harrison County, and about 80 acres in Marion County, upon which are six wells. The Company possesses no pumping station. The Lumberport Gas Company, serving Lumberport, Haywood, Erie, Hepzibah and a number of small towns surrounding, has territory consisting of some 37 drilled acres and five wells on separate tracts. The Horner Gas Company, from which the Lumberport Gas Company buys some gas, has about 80 acres of developed territory and five wells. The Eagle District Gas Company has about 160 acres. The Lumberport Company has no pump or booster station.

As a rule, the small companies in West Virginia, including those cited above, hold little or no reserve acreage. This is not due always, or even in a majority of cases, to the lack of gas territory. For instance, at the time the Keener Natural Gas, Oil & Fuel Company, supplying Weston, West Virginia, entered that town

some 25 years ago there was ample opportunity to take up additional acreage. Weston afforded the Company a market for its gas. (page 1267).

Financial conditions limited the operations of such companies to a very considerable degree. It is not only the cost of reserve acreage which prevents these companies from acquiring same but the necessity incidental thereto of laying pipe lines from their present holdings or transmission lines to such new territory, assuming that the latter would be productive of a gas supply. For the same reason these small companies are unable to build compressor stations which would have enabled them to obtain more gas from wells where the pressure had decreased to an extent where without a compressor station very little gas was to be had. For instance, the Home Petroleum Gas Company had an opportunity recently to obtain more gas by laying three or four miles of pipe line, but although it had considered the proposition, decided that the investment was not advisable.

(Page 1295.)

F. C. DEVERICKS—DEFENDANT'S WITNESS.

Pages 1357 and 1358:

It was generally assumed that the South Penn Oil Company, which had taken up a number of leases in West Virginia fields and districts, had suffered considerable financial loss through these operations. They had been, in a way, pioneers in the field, in that theirs was the first attempt to take up any considerable acreage or leases and do a large amount of drilling on the territory. The company was generally supposed to have lost millions of dollars in the adventure. As a

general rule the small independent operators, either individual or associate, did not feel warranted in marketing gas directly to the consumer. The reason is, that their holdings, generally being comparatively small, their production did not warrant the financial expenditure involved in building pipe lines to transport their gas, and, further, since their territory is somewhat limited they cannot feel assured of a number of consumers sufficient to use all the gas they can produce. The result is that the larger companies soon learn of the existence of gas in these territories and extend their pipe lines there and buy up the gas from these independent producers. It is therefore the larger companies who supply the consumers in the territory where gas is discovered, even though they do not themselves produce it in that territory. This, however, is only a general rule, for sometimes the independent producers themselves lay their own pipe lines and supply consumers direct. The consequence is that there are some gas distributing plants in most of the centers of population in West Virginia in and around Bradford and surrounding districts which were originally built by local capital, although some have been built by larger companies.

At least one of the smaller local companies, however, is doing some development. The Clarksburg Light & Heat Company recently acquired two or three thousand acres in Harrison County, which, however, had been previously operated. The Company has been drilling continuously on an average of from 15 to 20 new wells per year, the cost of which was from twelve to thirteen thousand dollars each (pages 1208 to 1212).

H. E. NEASE—DEFENDANT'S WITNESS.

Pages 1020-1021:

As a general rule the independent producers of gas do not have pipe lines for the transportation of their gas to market, nor do they have a market financed by local capital and by local enterprises. They have never had large capitalizations or large financial resources at their command and during the past fifteen years many of them have failed and gone out of business. They do not control a great deal of territory nor do they have any pipe lines or pumping stations. Their gas is distributed by natural rock pressure of the gas wells.

Pages 1028-1029, 1030, 1031:

The Manufacturers Light and Heat Company, the Pittsburgh and West Virginia Gas Company, and the United Fuel Company have absorbed and taken over many smaller companies originally operating in West Virginia.

GEORGE W. WILSON—DEFENDANT'S WITNESS.

Page 1300:

In Lewis and Braxton Counties the independent producers are fewer in number than they have been in recent years. At one time a considerable number operated, drilled wells, etc., but their leases have been sold to larger companies, which is practically the only market for the independents. The only method of transporting gas furnished the independent producer is the pipe lines of the larger companies. The extent of their holdings does not justify the small producers to go to the expense of laying pipe lines of their own.

VANCE L. HORNER—DEFENDANT'S WITNESS.

Pages 1309, 1310, 1311, 1312:

An attempt to exchange gas by the Lumberport Gas Company and the Shinnston Company with the Hope Company was without success. The Carnegie Company operating in the same vicinity as the Lumberport and Shinnston Gas Companies takes its gas at the present time through its pumping station from its well at less than atmospheric pressure which results in reducing the pressure on the adjoining wells operated by the witness' companies. If this were resorted to by all the companies, the Shinnston and Lumberport Gas Companies would be reduced to either establishing pumping stations or find it impossible to get gas from their wells. The financial situation of these companies would not justify the establishment of pumping stations.

PARKE BOWSER—DEFENDANT'S WITNESS.

Pages 1333 to 1335 (Cross-examination):

Operating about seventy oil and gas wells in Calhoun, Ritchie and Gilmer Counties in association with some other individuals, Mr. Bowser had shut in about 2,000,000 feet of gas because the market conditions offered by the Hope Natural Gas Company, to whom this gas could have been sold, practically amounted to a confiscation of property. The price offered was too low and the conditions in the contract were wholly derogatory to the producers. Under the contract offered him by the Hope Company it would have been necessary to lay about twelve miles of pipe line which would have involved an expenditure of from $12,000 to about $15,000, which the company considered an unjustifiably high amount.

J. K. ANDERSON.

Page 822:

Pennyslvania Exhibit No. 31, offered at page 822, appearing at page 1568.

Statement showing relation of operated and unoperated leaseholds of large interstate natural gas companies and small local intrastate natural gas companies doing business in the State of West Virgina. The statement shows the seven companies owning of 2,954,120 acres of gas territory in West Virginia, of which 26.57 per cent. are operated, and 20 small local intrastate natural gas companies owning a total of 27,619 acres in West Virginia, of which 62.65 per cent. are operated. The figures are as of August 19th, 1920, and based upon reports to the Board of Public Works of West Virginia.

Pages 1026 to 1027, 1028:

The Hope Natural Gas Company, the Reserve Gas Company, the Carnegie Natural Gas Company, the Pittsburgh and West Virginia Gas Company and the Manufacturers Light and Heat Company are engaged in and have production and pipe lines in Harrison County, but none of these companies serve the towns of Clarksburg, Shinnston, Lumberport, Bridgeport and Salem in said Harrison County. The total acreage of that County is 266,240 acres and the total acreage of gas territory held by the five companies is 171,996 acres. The total number of gas wells producing gas in that county and owned by these five companies is 1,674. There are 57 independent producers, owning 169 wells, who sell to these five companies. The extent of pipe line owned and operated by the five companies in this County is 1,157 miles, said pipe

line being two inches and larger. The total number of domestic consumers in Harrison County served by the five companies is between 800 and 900, and about 100,000 cubic feet of gas is furnished these consumers. No industries in Harrison County are supplied with natural gas by these companies. The Pittsburgh and West Virginia Gas Company supplies about 100 consumers in the town of Shinnston. Some of the companies furnish gas to local utilities that supply some of the above mentioned towns. The assessed value of the property of the five companies in Harrison County for the year 1920 is $13,915,199.

Pages 1027 to 1028:

The Hope Natural Gas Company, the Reserve Gas Company, the Carnegie Natural Gas Company and the Pittsburgh and West Virginia Gas Company are producing gas and have pipe lines in Lewis County, the acreage of said county being 251,520 acres and the population in 1920 being 20,455. The four gas companies control in that county 176,739 acres. The number of wells owned by the companies is 1,196 and they have purchased or are purchasing from 16 independent producers of gas owning 66 wells. The mileage of pipe line owned by said companies in Lewis County is 795 miles. The assessed value for their property for 1920 is $10,630,629. About 1200 domestic consumers are supplied with gas by these companies. These are chiefly rural consumers and rural communities, no incorporated cities or towns being supplied by any of the four companies. There is practically no service for industrial consumers in Lewis County.

J. S. LAKIN—DEFENDANT'S WITNESS.

Page 1188:

Q. It is at this point that I will ask you to make part of your examination the statement in respect to the Eastern Oil Company group of gas companies, heading that in proper form and letting it go into the record as part of your direct examination.

2589 *Statement Showing Leases, Wells, and Pipe Lines Within West Virginia of "Eastern Oil Company Group" of Natural Gas Companies.*

	Leases (acres).	Gas wells (No.).	Pipe line (miles).
West Virginia Central Gas Company	34,067	161	260
West Virginia and Maryland Gas Company	None	None	220
Northern Natural Gas Company	None	None	10
Totals	34,067	161	490

Leases are located within the counties of Lewis, Harrison, Upshur, Barbour and Gilmer.

Gas wells are within the counties of Lewis, Harrison and Braxton.

The Eastern Oil Company also owns the following local gas companies operating within West Virginia. These companies are not connected with the company's general system.

	Leases (acres).	Gas wells (No.).	Pipe line (miles).
Salem Natural Gas Company	386	6	57 miles, 1 to 8¼ "
West Union Gas Company	367	3	20 miles, 1 to 6¼ "
Glenville Natural Gas Company	200	1	17 miles, 1¼ " to 5⅝ "

The Salem Natural Gas Company operates within the counties of Doddridge and Harrison; the West Union Gas Company within Doddridge County and the Glenville Natural Gas Company within Gilmer County.

EDWIN ROBINSON.

Pages 1389-1392:

Made an investigation and compilation of the acreage held by operators in West Virginia; separated the acreage held by operators in West Virginia other than the Hope Natural Gas Company, Pittsburgh & West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas & Electric Company, and The Manufacturers Light & Heat Company; gave the amount of developed acreage held by other operators in the State of West Virginia than those seven companies, and the amount of undeveloped acreage; made an estimate of the amount held by other operators not included in the list, which did not purport to include all, both of developed and undeveloped acreage; offered in evidence Pennsylvania Exhibit 54 at page 1608, Vo. II of Exhibits, statement showing approximate acreage held by certain companies and individuals in West Virginia, comprising ten pages; offered in evidence general summary of acreage held by operators in West Virginia as compared with testimony of Mr. Nease, page 1618 of Exhibits, Vol. I, as follows:

191 & 192 *General Summary of Acreage Held by Operators in West Virginia as Compared with Testimony of Mr. Nease.*

	Developed.	Undeveloped.	Total.
Testified by Nease as held by seven companies	689,305	1,866,720	2,556,025
Ascertained as held by other operators	524,007	1,416,659	1,940,666
Estimated held by operators not included in above	100,000	300,000	400,000
	1,313,312	3,583,379	4,896,691

Percentage Held by Operators Other Than the Seven Companies Without the Estimate of Those Unascertained.

Developed.	Undeveloped.	Total.
43.2	43.1	43.2

Percentage With the Estimate of Those Unascertained.

Developed.	Undeveloped.	Total.
47.5	47.9	47.9